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

SARA2 / SAR1B Antibody (clone AT1C7)
Mouse Monoclonal Antibody
Catalog # ALS15889

Specification

SARA2 / SAR1B Antibody (clone AT1C7) - Product Information

Application	**WB, IHC-P, E**
Primary Accession	Q9Y6B6
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Calculated MW	**22kDa KDa**
Dilution	**WB~~1:1000** **IHC-P~~N/A** **E~~N/A**

SARA2 / SAR1B Antibody (clone AT1C7) - Additional Information

Gene ID 51128

Other Names
GTP-binding protein SAR1b, GTP-binding protein B, GTBPB, SAR1B, SARA2, SARB

Target/Specificity
Human SARA2 / SAR1B

Reconstitution & Storage
Can be stored at 4°C. For long term storage, aliquot and store at -20°C. Avoid repeated freezing and thawing cycles.

Precautions
SARA2 / SAR1B Antibody (clone AT1C7) is for research use only and not for use in diagnostic or therapeutic procedures.

SARA2 / SAR1B Antibody (clone AT1C7) - 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.

Volume
50 µl

SARA2 / SAR1B Antibody (clone AT1C7) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SARA2 / SAR1B Antibody (clone AT1C7) - Images

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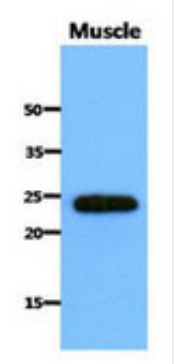
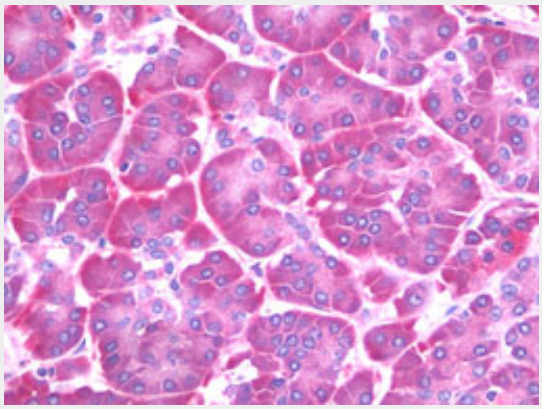


Western Blot: The extract of Mouse muscle (40 ug) were resolved by SDS-PAGE, transferred to PVDF...



Anti-SARA2 / SAR1B antibody IHC staining of human pancreas.

SARA2 / SAR1B Antibody (clone AT1C7) - Background

Involved in transport from the endoplasmic reticulum to the Golgi apparatus. Activated by the guanine nucleotide exchange factor PREB. Involved in the selection of the protein cargo and the assembly of the COPII coat complex.

SARA2 / SAR1B Antibody (clone AT1C7) - 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).