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Goat Anti-SAR1 Antibody

Peptide-affinity purified goat antibody
Catalog # AF1957a

Specification

Goat Anti-SAR1 Antibody - Product Information

Application	**WB, E**
Primary Accession	Q9NR31
Other Accession	NP_064535, 56681, 20224 (mouse), 361842 (rat)
Reactivity	**Mouse**
Predicted	**Human, Rat**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**22367**

Goat Anti-SAR1 Antibody - Additional Information

Gene ID 56681

Other Names
GTP-binding protein SAR1a, COPII-associated small GTPase, SAR1A, SAR1, SARA, SARA1

Dilution
WB~~1:1000
E~~N/A

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-SAR1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-SAR1 Antibody - Protein Information

Name SAR1A (HGNC:10534)

Synonyms SAR1, SARA, SARA1

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. 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:36369712). The GTPase activity of SAR1 by controlling the timing of COPII budding regulates the size of the formed vesicles and is important for cargo selection depending on their size (PubMed:32358066). Together with SEC16A, forms the organized scaffold defining endoplasmic reticulum exit sites (ERES), some specific domains of the endoplasmic reticulum where COPII vesicles form (PubMed:17005010). 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. Golgi apparatus, Golgi stack membrane; Peripheral membrane protein. 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, PubMed:32358066). Upon leucine deprivation, associates with lysosomal membranes to repress TORC1 signaling (Probable)

Goat Anti-SAR1 Antibody - 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

Goat Anti-SAR1 Antibody - Images

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AF1957a (0.1 µg/ml) staining of NIH3T3 lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-SAR1 Antibody - References

Maternal genes and facial clefts in offspring: a comprehensive search for genetic associations in two population-based cleft studies from Scandinavia. Jugessur A, et al. PLoS One, 2010 Jul 9. PMID 20634891.
Sar1 assembly regulates membrane constriction and ER export. Long KR, et al. J Cell Biol, 2010 Jul 12. PMID 20624903.
Sar1-dependent trafficking of the human calcium receptor to the cell surface. Zhuang X, et al. Biochem Biophys Res Commun, 2010 Jun 11. PMID 20457124.
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Intracellular trafficking and assembly of specific Kir3 channel/G protein complexes. Robitaille M, et al. Cell Signal, 2009 Apr. PMID 19135528.