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SAR1A Rabbit pAb

Catalog # AP99530

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	Q9NR31
Other Accession	Q9NR31
Predicted	Rat, Pig, Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	22367
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SAR1
Epitope Specificity	51-150/198
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the small GTPase superfamily. SAR1 family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Additional Information

Gene ID	56681
Other Names	SAR1; SARA1; Sara; masra2; 1600019H17Rik; SAR1A_HUMAN; SAR1A; COPII-associated small GTPase; Secretion-associated Ras-related GTPase 1A; 3.6.5.2; SAR1A_MOUSE; secretion associated Ras related GTPase 1A; SAR1a gene homolog (S. cerevisiae) 1; SAR1a gene homolog 1 (S. cerevisiae); SAR1 homolog A (S. cerevisiae); secretion associated, Ras related GTPase 1A
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.