abcam

ab155278

Anti-SAR1B + SAR1A antibody [EPR10105(B)]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR10105(B)
Purification technique	Affinity purification Protein A
Concentration	0.143 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Species	Recombinant full length protein - Human
Dilution info	1/1000 - 1/10000
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/100

Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Target data

See full target information SAR1B

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).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	SAR1B also known as Secretion-Associated RAS Related GTPase 1B is a small GTPase protein with a molecular mass of approximately 22 kDa. This protein plays an important role in intracellular trafficking specifically in the transport of proteins from the endoplasmic reticulum to the Golgi apparatus. SAR1B is expressed in various tissues with a higher presence in liver and small intestine cells where it participates in the regulation of lipoprotein assembly and secretion.
Biological function summary	SAR1B is essential for the formation of the coat protein complex II (COPII) facilitating the export of proteins in vesicles from the endoplasmic reticulum. As part of this COPII complex SAR1B assists in the scission of transport vesicles allowing their movement towards the Golgi apparatus. The interaction with other proteins such as SEC23 and SEC24 enhances the specificity of protein selection for transport which is necessary for proper cellular function.
Pathways	Several important interactions include SAR1B's role in the lipid metabolism and secretion pathways. It collaborates within these pathways to ensure the efficient transport of lipids and proteins necessary for maintaining lipid homeostasis. SAR1B works in coordination with other proteins such as SEC24 and SEC23 underlining its importance in these pathways that are critical for metabolic regulation.
Associated diseases and disorders	Mutations in SAR1B have been linked with chylomicron retention disease also known as Anderson's disease. This condition is characterized by defective chylomicron secretion leading to symptoms such as fat malabsorption and low blood cholesterol levels. The disease highlights SAR1B's involvement with proteins ensuring proper lipid transport like APOB and MTTP emphasizing its contribution to lipid processing and systemic lipid balance.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

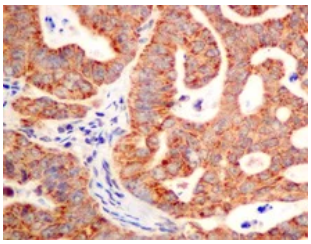
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

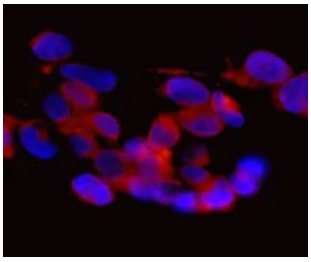
7 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SAR1B + SAR1A antibody [EPR10105(B)] (ab155278)

SAR1B + SAR1A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SAR1B + SAR1A antibody

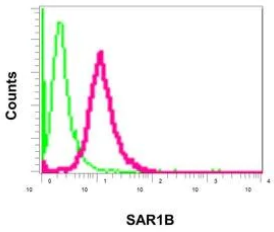
Immunohistochemical analysis of paraffin embedded Human gastric carcinoma tissue labeling SAR1B with ab155278 at 1/50 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-SAR1B + SAR1A antibody [EPR10105(B)] (ab155278)

SAR1B + SAR1A Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SAR1B + SAR1A antibody

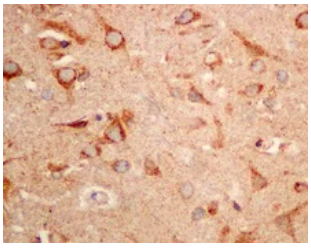
Immunofluorescence analysis of 293T cells labeling SAR1B with ab155278 at a 1/50 dilution.



Flow Cytometry (Intracellular) - Anti-SAR1B + SAR1A antibody [EPR10105(B)] (ab155278)

SAR1B + SAR1A Flow Cytometry (Intracellular) staining using rabbit Anti-SAR1B + SAR1A antibody

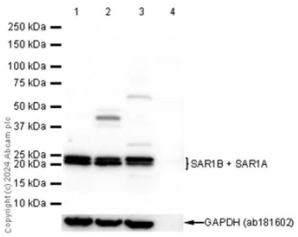
Intracellular flow cytometric analysis of permeabilized 293T cells using ab155278 at a 1/10 dilution (red) or a rabbit IgG (negative) (green).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SAR1B + SAR1A antibody [EPR10105(B)] (ab155278)

SAR1B + SAR1A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SAR1B + SAR1A antibody

Immunohistochemical analysis of paraffin embedded Human brain tissue labeling SAR1B with ab155278 at 1/50 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-SAR1B + SAR1A antibody [EPR10105(B)] (ab155278)

Blocking and diluting buffer and concentration: 5% NFDM/TBST

ab181602 was used as a GAPDH loading control.

Negative control: Human plasma
All lanes:
Western blot - Anti-SAR1B + SAR1A antibody [EPR10105(B)] (ab155278) at 1/1000 dilution

Lane 1:
HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
HEK-293 (Human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Lane 3:
Human liver tissue lysate at 20 µg

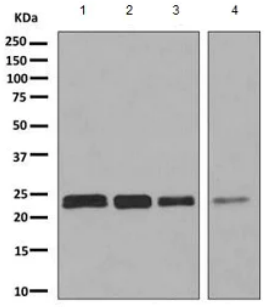
Lane 4:
Human plasma tissue lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 22-23 kDa

Exposure time: 3s



Western blot - Anti-SAR1B + SAR1A antibody [EPR10105(B)] (ab155278)

All lanes:
Western blot - Anti-SAR1B + SAR1A antibody [EPR10105(B)] (ab155278) at 1/1000 dilution

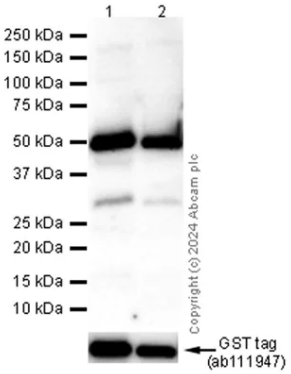
Lane 1:
293T cell lysate at 10 µg

Lane 2:
Fetal liver tissue lysate at 10 µg

Lane 3:
Fetal brain tissue lysate at 10 µg

Lane 4:
Human skeletal muscle tissue lysate at 10 µg

Predicted band size: 22 kDa



Western blot - Anti-SAR1B + SAR1A antibody [EPR10105(B)] (ab155278)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
ab111947 was used as a GST tag loading control.

All lanes:
Western blot - Anti-SAR1B + SAR1A antibody [EPR10105(B)] (ab155278) at 1/1000 dilution

Lane 1:
Human SAR1B recombinant full-length protein with a GST tag at the N-terminus at 10 ng

Lane 2:
Human SAR1A recombinant full-length protein with a GST tag at the N-terminus at 10 ng

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 48 kDa

Exposure time: 3s

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