abcam

ab270756

Anti-SEC23B antibody [EPR22723-24] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR22723-24
Purification technique	Affinity purification Protein A

Reactivity data

IP

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Recombinant fragment, Human, Rat
Dilution info	-
Notes	-

WB

Expected

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

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Recombinant fragment, Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Recombinant fragment, Human, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Human, Rat, Recombinant fragment
Dilution info	-
Notes	-

Target data

See full target information Sec23b

Function	Component of the coat protein complex II (COPII) which promotes the formation of transport vesicles from the endoplasmic reticulum (ER). The coat has two main functions, the physical deformation of the endoplasmic reticulum membrane into vesicles and the selection of cargo molecules for their transport to the Golgi complex.

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab270756 is the carrier-free version of ab245212.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	SEC23B also known as Protein Transport Protein Sec23B is a component of the coat protein complex II (COPII) which mediates transport from the endoplasmic reticulum to the Golgi apparatus. SEC23B weighs approximately 88 kDa and acts as a GTPase activating protein that regulates the COPII complex assembly. SEC23B broadly expresses in many tissues including high levels in the pancreas and liver suggesting its essential role in cellular transport processes.

Biological function summary	SEC23B functions in vesicular trafficking within cells. In the COPII complex it interacts with SEC24 proteins to form a structural framework critical for cargo selection and vesicle budding. SEC23B does not work alone and is part of a larger protein complex that includes SEC24 SAR1 and SEC13/31 which facilitates proper vesicle formation and trafficking. These interactions enable cells to accurately and efficiently transport necessary proteins and lipids through the secretory pathway.
Pathways	SEC23B is essential in the ER-to-Golgi transport pathway and plays a significant role in maintaining protein homeostasis. The secretory pathway requires SEC23B to cooperate with other proteins like SEC24C and SEC31A ensuring that cargo proteins are correctly packaged and delivered to their destination within the cell. This process is vital for the function of other pathways such as the unfolded protein response as it prevents the accumulation of misfolded proteins in the endoplasmic reticulum.
Associated diseases and disorders	SEC23B mutations have links to Congenital Dyserythropoietic Anemia type II (CDA II) which manifests as ineffective erythropoiesis and improper glycosylation of red blood cell membrane proteins. SEC23B is also associated with pancreatic dysfunctions considering its high expression in the tissue although detailed mechanisms are less understood. In CDA II SEC23B's dysfunction affects its interaction with associated proteins like SEC24B disrupting normal vesicular trafficking and functional erythrocyte production.

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

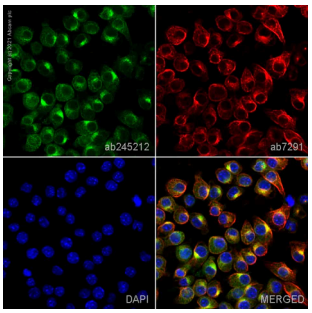
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images

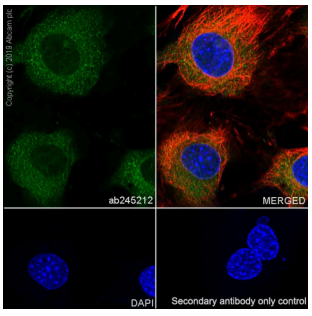


Immunocytochemistry/ Immunofluorescence - Anti-SEC23B antibody [EPR22723-24] - BSA and Azide free (ab270756)

SEC23B Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SEC23B antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab245212).
ab245212 staining SEC23B in Raw264.7 cells, with negative expression in cells. The cells were fixed with 4% formaldehyde (10 min), permeabilised with 0.1% Triton x-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab245212 at 1 µg/ml and ab7291, Mouse monoclonal [DM1A] to alpha Tubulin at 0.5 µg/ml. Cells were then incubated with ab150081, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488), pre-adsorbed at 1/1000 dilution (shown in green) and ab150119, Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor® 647), pre-adsorbed at 1/1000 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).

Image was acquired with a confocal microscope (Leica-Microsystems TCS SP8) and a single confocal section is shown.

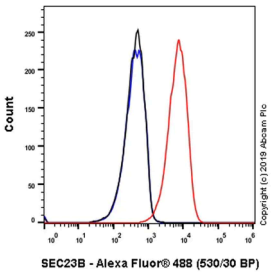


Immunocytochemistry/ Immunofluorescence - Anti-SEC23B antibody [EPR22723-24] - BSA and Azide free (ab270756)

SEC23B Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SEC23B antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized MEF cells labeling SEC23B with ab245212 at 1/50 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocol image showing mainly cytoplasmic staining in MEFs. ab195889 Anti-alpha Tubulin antibody (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor®488) at 1/1000 dilution.

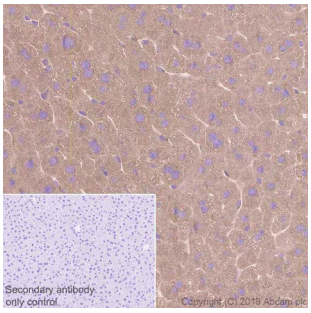
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab245212).



Flow Cytometry (Intracellular) - Anti-SEC23B antibody [EPR22723-24] - BSA and Azide free (ab270756)

SEC23B Flow Cytometry (Intracellular) staining using rabbit Anti-SEC23B antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized MEF (Mouse embryonic fibroblast (immortalized)) cells labeling SEC23B with ab245212 at 1/500 dilution (0.1µg)/ (Red) compared with a Rabbit monoclonal IgG (ab172730) / (Black) isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor®488, ab150077) at 1/2000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab245212).



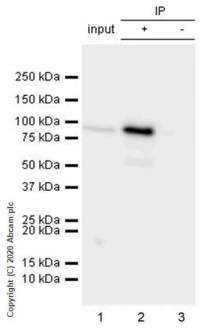
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SEC23B antibody [EPR22723-24] - BSA and Azide free (ab270756)

SEC23B Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SEC23B antibody

Immunohistochemical analysis of paraffin-embedded mouse liver tissue labeling SEC23B with 245212 at 1/1/1000 followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on mouse liver is observed (PMID: 22745161).
The section was incubated with ab245212 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab245212).



Immunoprecipitation - Anti-SEC23B antibody [EPR22723-24] - BSA and Azide free (ab270756)

SEC23B was immunoprecipitated from 0.35 mg MEF (mouse embryonic fibroblast (immortalized)) whole cell lysate 20 ug with ab245212 at 1/30. Western blot was performed on the immunoprecipitate using ab245212 at 1/500 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/1000 dilution.
Lane 1: MEF whole cell lysate 20 ug.

Lane 2: ab245212 IP in MEF whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab245212 in MEF whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 1 second.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab245212).
All lanes:
Immunoprecipitation - Anti-SEC23B antibody [EPR22723-24] (ab245212)

Predicted band size: 86 kDa

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