abcam

ab240974

Anti-RAB7B antibody [EPR15727] - 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	EPR15727
Purification technique	Affinity purification Protein A
Specificity	ab193360 recognizes RAB7B and also cross-reacts with RAB7A and RAB27A in overexpression testing. Cross-reactivity with these closely related family members should be considered when interpreting results obtained with this antibody.

Reactivity data

WB

Expected

Species	Mouse, Human
Dilution info	Use at an assay dependent concentration.

Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information Ras-related protein Rab-7b

Function	Controls vesicular trafficking from endosomes to the trans-Golgi network (TGN). Acts as a negative regulator of TLR9 signaling and can suppress TLR9-triggered TNFA, IL6, and IFNB production in macrophages by promoting TLR9 lysosomal

degradation. Also negatively regulates TLR4 signaling in macrophages by promoting lysosomal degradation of TLR4. Promotes megakaryocytic differentiation by increasing NF-kappa-B-dependent IL6 production and subsequently enhancing the association of STAT3 with GATA1. Not involved in the regulation of the EGF- and EGFR degradation pathway.

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

ab240974 is the carrier-free version of ab193360.

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	RAB7B also known as Ras-related protein Rab-7b is a small GTPase belonging to the Ras superfamily. This protein weighs approximately 23 kDa. Researchers find RAB7B in various tissues including the immune and the central nervous system. It plays a direct role in intracellular protein trafficking and vesicular transport moving proteins and other molecules from one organelle to another within cells. Through its association with specific membrane compartments RAB7B assists in maintaining the dynamic balance of vesicle budding transport and fusion regulating endosomal sorting.
Biological function summary	The functions of RAB7B include its contribution to lysosomal biogenesis and endosome-to-lysosome trafficking. It is part of a complex known as the endosomal transport modulation machinery where it interacts with multiple effector proteins to translocate cargo to the lysosome for degradation or recycling. In immune cells RAB7B helps modulate immune response by controlling the degradation of signaling receptors. This function makes it essential for cellular homeostasis and adaptive immune responses influencing antigen processing.
Pathways	The interaction of RAB7B with other members of the Rab GTPase family situates it in important cellular pathways like the endocytic pathway and autophagy. In the endocytic pathway it coordinates with proteins like RAB5A transitioning early endosomes to late endosomes. The action in autophagy involves interaction with other autophagic regulators to aid in autophagosomal-lysosomal fusion influencing how cells handle stress and remove damaged components.
Associated diseases and disorders	Abnormal RAB7B expression has been linked to neurodegenerative diseases like Alzheimer's and immune disorders such as rheumatoid arthritis. Its interaction with other proteins like LRRK2 in Parkinson's disease implicates it in pathways that lead to neuronal damage and inflammation. In rheumatoid arthritis RAB7B influences immune cell signaling and cytokine release contributing to autoimmune responses. Understanding its associations aids in developing therapeutic strategies targeting the molecular functions of RAB7B in these conditions.

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

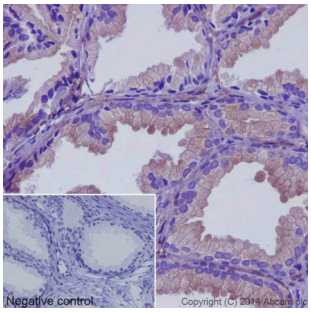
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images

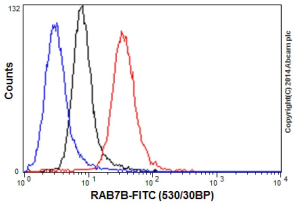


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RAB7B antibody [EPR15727] - BSA and Azide free (ab240974)

RAB7B Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RAB7B antibody

Immunohistochemical analysis of paraffin-embedded Human prostatic hyperplasia tissue labeling RAB7B with ab193360 at 1/150 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Counter stained with Hematoxylin.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab193360)

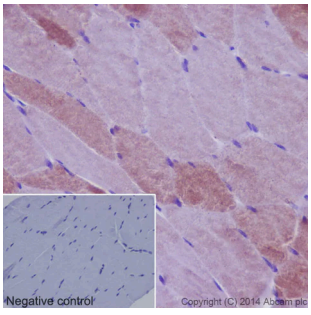
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-RAB7B antibody [EPR15727] - BSA and Azide free (ab240974)

RAB7B Flow Cytometry (Intracellular) staining using rabbit Anti-RAB7B antibody

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed U937 cells labeling RAB7B with ab193360 at 1/270 dilution (red) compared with a rabbit monoclonal IgG isotype control (black) and a unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/150 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 (ab193360)

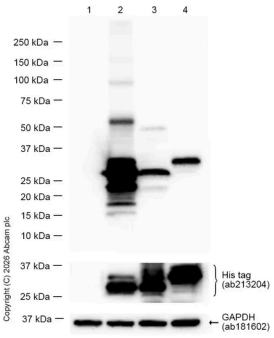


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RAB7B antibody [EPR15727] - BSA and Azide free (ab240974)

RAB7B Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RAB7B antibody

Immunohistochemical analysis of paraffin-embedded Human skeletal muscle tissue labeling RAB7B with ab193360 at 1/150 dilution, followed by prediluted HRP Polymer for Rabbit/Mouse IgG. Counter stained with Hematoxylin.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab193360)

Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Western blot - Anti-RAB7B antibody [EPR15727] - BSA and Azide free (ab240974)

RAB7B Western blot staining using rabbit Anti-RAB7B antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab193360).
Blocking and dilution buffer: 5% NFDM/TBST.

Loading controls:
Anti-6X His tag® antibody [EPR20547] - ChIP Grade (ab213204) at 1/5,000 dilution.
Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) at 1/1,000,000 dilution.

ab193360 recognizes RAB7B and also cross-reacts with RAB7A and RAB27A in overexpression testing.

All lanes:
Western blot - Anti-RAB7B antibody [EPR15727] (ab193360) at 1/10000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) + OE-empty whole cell lysate at 20 µg

Lane 2:
293T + OE- RAB7B whole cell lysate at 20 µg

Lane 3:
293T + OE- RAB7A whole cell lysate at 20 µg

Lane 3:
293T + OE- RB27A whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 25 kDa

Exposure time: 3s

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