abcam

ab307607

Anti-RAB8A antibody [MJF-R22-79-3] - Mouse IgG2a (Chimeric)

Recombinant | KO Validated | 20ul selling size

Key facts

Isotype	IgG2a
Host species	Mouse
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	MJF-R22-79-3
Purification technique	Affinity purification Protein A
Concentration	0.918 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/800
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/5000
Notes	-

WB

Tested

Species	Human
Dilution info	1/5000
Notes	-

Target data

See full target information RAB8A

Function The small GTPases Rab are key regulators of intracellular membrane trafficking, from the formation of transport vesicles to their fusion with membranes. Rabs cycle between an inactive GDP-bound form and an active GTP-bound form that is

able to recruit to membranes different sets of downstream effectors directly responsible for vesicle formation, movement, tethering and fusion. RAB8A is involved in polarized vesicular trafficking and neurotransmitter release. Together with RAB11A, RAB3IP, the exocyst complex, PARD3, PRKCI, ANXA2, CDC42 and DNMBP promotes transcytosis of PODXL to the apical membrane initiation sites (AMIS), apical surface formation and lumenogenesis (PubMed:20890297). Regulates the compacted morphology of the Golgi (PubMed:26209634). Together with MYO5B and RAB11A participates in epithelial cell polarization (PubMed:21282656). Also involved in membrane trafficking to the cilium and ciliogenesis (PubMed:21844891, PubMed:30398148, PubMed:20631154). Together with MICALL2, may also regulate adherens junction assembly (By similarity). May play a role in insulin-induced transport to the plasma membrane of the glucose transporter GLUT4 and therefore play a role in glucose homeostasis (By similarity). Involved in autophagy (PubMed:27103069). Participates in the export of a subset of neosynthesized proteins through a Rab8-Rab10-Rab11-dependent endososomal export route (PubMed:32344433). Targeted to and stabilized on stressed lysosomes through LRRK2 phosphorylation (PubMed:30209220). Suppresses stress-induced lysosomal enlargement through EHBP1 and EHNP1L1 effector proteins (PubMed:30209220).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

ab307607 is a mouse monoclonal chimeric antibody.
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.

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.

Supplementary info

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

Activity summary	RAB8A is a small GTPase also referred to as Ras-related protein Rab-8A involved in intracellular membrane trafficking. It plays a critical role in the regulation of exocytosis the process by which cells release substances to the extracellular space. RAB8A mainly functions by cycling between an inactive GDP-bound form and an active GTP-bound form facilitating vesicle budding transport and fusion with target membranes. This protein is expressed in various tissues including the brain and pancreas where it assists in important cellular functions. RAB8A has a molecular mass of approximately 24 kDa.
Biological function summary	The small GTPase RAB8A contributes to the biosynthetic transport from the trans-Golgi network to the plasma membrane. It performs this activity in coordination with other proteins as part of a larger complex. RAB8A also plays an essential role in cilia formation and maintenance affecting cell polarity and signaling functions. The protein's ability to regulate vesicle movement makes it important for cellular homeostasis and communication.
Pathways	The regulatory function of RAB8A is significant in the ciliary membrane trafficking pathway and the insulin signaling pathway. Within these pathways RAB8A interacts closely with other proteins like Rab11 and Rabin8 which help support its roles in directing vesicle transport. These interactions are essential for proper cellular signaling and the maintenance of polarized cellular structures further supporting the function of various cellular pathways.
Associated diseases and disorders	The dysfunction of RAB8A has associations with certain ciliopathies notably Bardet-Biedl syndrome. This condition involves abnormalities in cilia structure and function leading to symptoms like kidney disease vision impairment and obesity. Moreover disruptions in RAB8A have connections with insulin resistance implicating it in metabolic disorders. In the context of these diseases proteins such as BBS proteins and Rab11 play a role in mediating the effects of dysfunctional RAB8A-related pathways.

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.

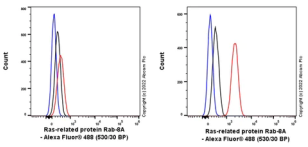
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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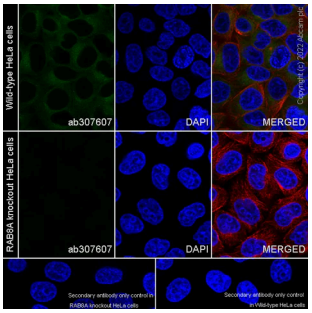
8 product images



Flow Cytometry (Intracellular) - Anti-RAB8A antibody [MJF-R22-79-3] - Mouse IgG2a (Chimeric) (ab307607)

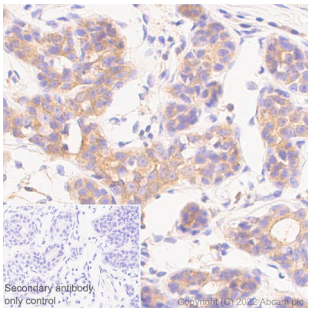
RAB8A Flow Cytometry (Intracellular) staining using mouse Anti-RAB8A antibody

Flow cytometric analysis of 4% paraformaldehyde-fixed 90% methanol-permeabilized RAB8A KO HeLa (ED010027, Left) / Parental HeLa (EDWT01, Right) cells labeling RAB8A with ab307607 at 1/800 dilution (0.1 ug) (Red) compared with a mouse monoclonal IgG (Black) isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti-Mouse IgG (Alexa Fluor® 488, ab150113) at 1/2000 dilution was used as the secondary antibody.



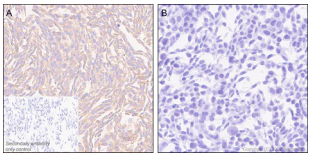
Immunocytochemistry/ Immunofluorescence - Anti-RAB8A antibody [MJF-R22-79-3] - Mouse IgG2a (Chimeric) (ab307607)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized RAB8A KO HeLa (RAB8A knockout human cervical adenocarcinoma epithelial cell) (ab264993) cells labeling RAB8A with ab307607 at 1/500 dilution, followed by ab98712 Goat Anti-Mouse IgG Fc (DyLight® 488) preadsorbed antibody at 1/1000 dilution (2 µg/ml) (Green). Confocal image showing cytoplasmic staining in Parental HeLa cell line, and no staining in RAB8A KO HeLa cell line. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). ab202272 Recombinant Alexa Fluor® 594 Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (ab202272) was used to counterstain tubulin at 1/50 dilution (10 µg/ml) (Red). Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab98712 Goat Anti-Mouse IgG Fc (DyLight® 488) preadsorbed at 1/1000 dilution (2 µg/ml).



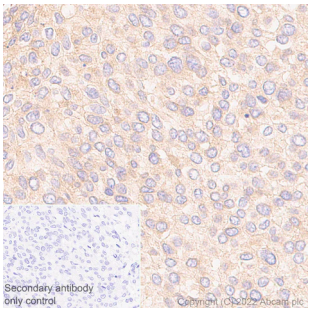
Immunohistochemistry - Anti-RAB8A antibody [MJF-R22-79-3] - Mouse IgG2a (Chimeric) (ab307607)

Immunohistochemical analysis of paraffin-embedded human breast tissue labeling RAB8A with ab307607 at 1/5000 dilution (0.167 µg/mL) followed by ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Cytoplasmic staining on human breast. The section was incubated with ab307607 for 30 mins at room temperature, followed by anti-mouse IgG2a antibody for 8 mins during the LeicaDS9800 kit staining procedure. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins.



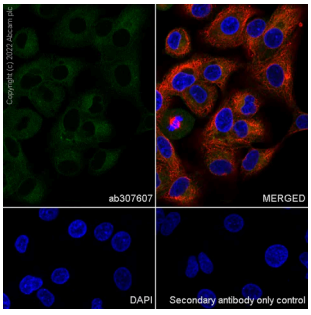
Immunohistochemistry - Anti-RAB8A antibody [MJF-R22-79-3] - Mouse IgG2a (Chimeric) (ab307607)

Immunohistochemical analysis of paraffin-embedded cell pellets labeling RAB8A with ab307607 at 1/5000 dilution (0.167 µg/mL) followed by ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Cytoplasmic staining on (A) Wild-type HeLa cell pellets, no staining on (B) RAB8A knockout HeLa (ab264993) cell pellets. The section was incubated with ab307607 for 30 mins at room temperature, followed by anti-mouse IgG2a antibody for 8 mins during the LeicaDS9800 kit staining procedure. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins.



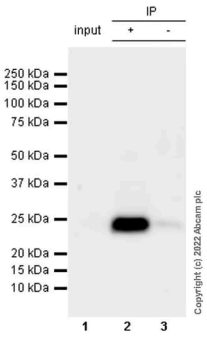
Immunohistochemistry - Anti-RAB8A antibody [MJF-R22-79-3] - Mouse IgG2a (Chimeric) (ab307607)

Immunohistochemical analysis of paraffin-embedded human bladder carcinoma tissue labeling RAB8A with ab307607 at 1/5000 dilution (0.167 µg/mL) followed by ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Cytoplasmic staining on human bladder carcinoma. The section was incubated with ab307607 for 30 mins at room temperature, followed by anti-mouse IgG2a antibody for 8 mins during the LeicaDS9800 kit staining procedure. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins.



Immunocytochemistry/ Immunofluorescence - Anti-RAB8A antibody [MJF-R22-79-3] - Mouse IgG2a (Chimeric) (ab307607)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized A549 (human lung carcinoma epithelial cell) cells labeling RAB8A with ab307607 at 1/500 dilution, followed by ab98712 Goat Anti-Mouse IgG Fc (DyLight® 488) preadsorbed antibody at 1/1000 dilution (2 µg/ml) (Green). Confocal image showing cytoplasmic staining in A549 cell line. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). ab202272 Recombinant Alexa Fluor® 594 Anti-alpha Tubulin antibody [EP1332Y] - Microtubule Marker (ab202272) was used to counterstain tubulin at 1/50 dilution (10 ug/ml) (Red). Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab98712 Goat Anti-Mouse IgG Fc (DyLight® 488) preadsorbed at 1/1000 dilution (2 µg/ml).



Immunoprecipitation - Anti-RAB8A antibody [MJF-R22-79-3] - Mouse IgG2a (Chimeric) (ab307607)

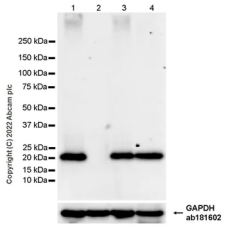
RAB8A was immunoprecipitated from 0.35 mg A549 (human lung carcinoma epithelial cell) whole cell lysate 10 ug with ab307607 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab307607 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution. Lane 1: A549 whole cell lysate 10 ug Lane 2: ab307607 IP in A549 whole cell lysate Lane 3: Mouse IgG2a monoclonal isotype control (ab18413) instead of ab307607 in A549 whole cell lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 24 seconds.
All lanes:
Immunoprecipitation - Anti-RAB8A antibody [MJF-R22-79-3] - Mouse IgG2a (Chimeric) (ab307607) at 1/1000 dilution

Lane 1:
A549 (human lung carcinoma epithelial cell) whole cell lysate 10 µg

Lane 2:
A549 whole cell lysate

Observed band size: 23 kDa

Exposure time: 24s



Western blot - Anti-RAB8A antibody [MJF-R22-79-3] - Mouse IgG2a (Chimeric) (ab307607)

Blocking and diluting buffer and concentration: 5% NFDM/TBST. In Western blot, ab307607 was shown to bind specifically to RAB8A. A band was observed at 23 kDa in wild-type HeLa cell lysates with whereas no signal observed at this size in RAB8A knockout cell line ab264993 (knockout cell lysate ab257195). Exposure time: 48 seconds.
All lanes:
Western blot - Anti-RAB8A antibody [MJF-R22-79-3] - Mouse IgG2a (Chimeric) (ab307607) at 1/5000 dilution

Lane 1:
Wild-type HeLa (human cervix adenocarcinoma epithelial cell), whole cell lysate 20 µg

Lane 2:
RAB8A knockout HeLa (human cervix adenocarcinoma epithelial cell), whole cell lysate 20 µg

Lane 3:
HCT116 (human colorectal carcinoma epithelial cell)whole cell lysate 20 µg

Lane 4:
A549 (human lung carcinoma epithelial cell), whole cell lysate 20 µg

Observed band size: 23 kDa

Exposure time: 48s

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