abcam

ab300647

Anti-non-muscle Myosin IIB/MYH10 antibody [EPR22564-23] - Rat IgG2a (Chimeric)

Lab Essentials | Recombinant | 20ul selling size

Key facts

Isotype	IgG2a
Host species	Rat
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	EPR22564-23
Purification technique	Ion exchange chromatography
Concentration	1.152 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

ICC/IF

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

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

Target data

See full target information MYH10

Function	Cellular myosin that appears to play a role in cytokinesis, cell shape, and specialized functions such as secretion and capping. Involved with LARP6 in the stabilization of type I collagen mRNAs for CO1A1 and CO1A2. During cell spreading, plays an important role in cytoskeleton reorganization, focal contacts formation (in the central part but not the margins of spreading cells), and lamellipodial extension; this function is mechanically antagonized by MYH9. (Microbial infection) Acts as a receptor for herpes simplex virus 1/HHV-1 envelope glycoprotein B.

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

This rat monoclonal chimeric antibody has been engineered from a RabMAb parent antibody (ab230823). By necessity, some rabbit sequence is retained as part of the variable domain. When multiplexing with other rabbit-derived antibodies, using cross absorbed FC-reactive secondary antibodies are recommended.
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	Non-muscle Myosin IIB also known as MYH10 is a motor protein important in cell division and movement. This protein weighs approximately 228 kDa. Myosin IIB shows expression in various tissues including the brain heart and fibroblasts. Unlike other myosins found in muscle cells Myosin IIB functions mainly in non-muscle cells where it plays a role in organizing intracellular structure and shape.
Biological function summary	The non-muscle Myosin IIB contributes to cell motility and cytokinesis important for normal cell proliferation and maintenance. It operates as part of the actomyosin complex that includes actin and other myosin types. This complex facilitates contractile forces within cells enabling movements such as cell migration and tissue development. Myosin IIB works closely with actin filaments converting chemical energy from ATP into mechanical work required for these processes.
Pathways	Cell migration and tissue morphogenesis involve Myosin IIB. Myosin IIB participates in the Rho-ROCK signaling pathway which regulates actomyosin contraction during cellular movement and morphogenesis. It interacts with other myosins like Myosin IIA illustrating its role in shared pathways. These pathways control the balance between cellular adhesion and detachment necessary for proper cellular function.
Associated diseases and disorders	Non-muscle Myosin IIB associates with neurological disorders and cancer. Changes in Myosin IIB function can disrupt normal cell division leading to cancer progression. In neurological disorders Myosin IIB affects cell signaling and structural integrity of neurons. For instance disruptions in interactions with actin and other related proteins like Myosin IIA and Tropomyosins can lead to these adverse biological effects showing its significance in maintaining healthy cellular operations.

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

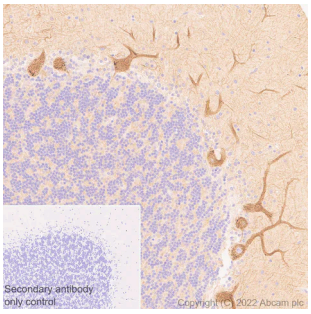
We do not recommend this combination. It is not covered by our product promise.

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.

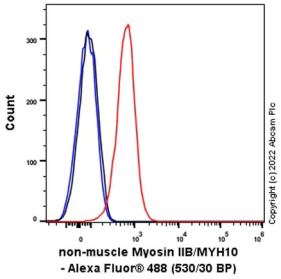
Full details and terms and conditions can be found here:
Terms & Conditions.

10 product images



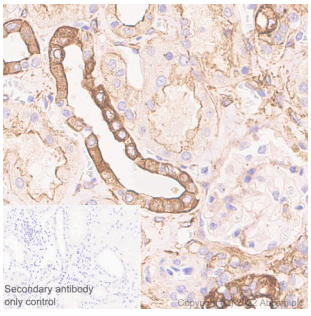
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-non-muscle Myosin IIB/MYH10 antibody [EPR22564-23] - Rat IgG2a (Chimeric) (ab300647)

Immunohistochemical analysis of paraffin-embedded human cerebellum tissue labeling non-muscle Myosin IIB/MYH10 with ab300647 at 1/500 dilution (2.304 µg/ml) followed by ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Positive staining on human cerebellum. The section was incubated with ab300647 for 30 mins at room temperature, followed by anti-rat IgG antibody (ab102248) 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 with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



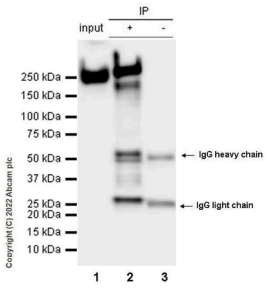
Flow Cytometry (Intracellular) - Anti-non-muscle Myosin IIB/MYH10 antibody [EPR22564-23] - Rat IgG2a (Chimeric) (ab300647)

Flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labeling non-muscle Myosin IIB/MYH10 with ab300647 at 1/1000 dilution (0.1µg) (Red) compared with a Rat monoclonal IgG (Black) isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat F(ab)2 Anti-Rat IgG Fc (Alexa Fluor® 488, ab150161) at 1/2000 dilution was used as the secondary antibody.



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Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling non-muscle Myosin IIB/MYH10 with ab300647 at 1/500 dilution (2.304 µg/ml) followed by ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Positive staining on human kidney. The section was incubated with ab300647 for 30 mins at room temperature, followed by anti-rat IgG antibody (ab102248) 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 with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Immunoprecipitation - Anti-non-muscle Myosin IIB/MYH10 antibody [EPR22564-23] - Rat IgG2a (Chimeric) (ab300647)

non-muscle Myosin IIB/MYH10 was immunoprecipitated from 0.35 mg HEK-293T (human embryonic kidney epithelial cell) whole cell lysate, 10µg with ab300647 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab300647 at 1/1000 dilution. Goat Anti-Rat IgG (H+L), HRP) (ab205720) was used at 1/5000 dilution. Lane 1: HEK-293T whole cell lysate, 10µg Lane 2: ab300647 IP in HEK-293T whole cell lysate Lane 3: Rat monoclonal IgG2a (ab18450) instead of ab300647 in HEK-293T whole cell lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 1 second.
All lanes:
Immunoprecipitation - Anti-non-muscle Myosin IIB/MYH10 antibody [EPR22564-23] - Rat IgG2a (Chimeric) (ab300647) at 1/30 dilution

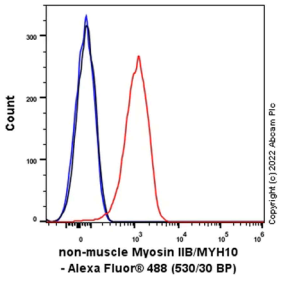
All lanes:
HEK-293T (human embryonic kidney epithelial cell)

Secondary

All lanes:
Immunoprecipitation - Goat Anti-Rat IgG H&L (HRP) (ab205720) at 1/5000 dilution

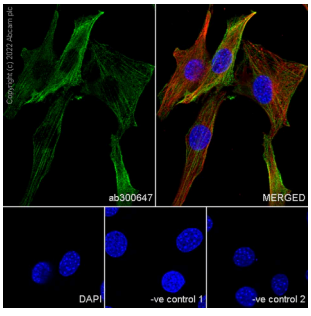
Observed band size: 250 kDa

Exposure time: 1s



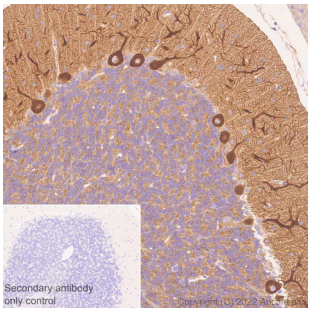
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Flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labeling non-muscle Myosin IIB/MYH10 with ab300647 at 1/1000 dilution (0.1µg) (Red) compared with a Rat monoclonal IgG (Black) isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat F(ab)2 Anti-Rat IgG Fc (Alexa Fluor® 488, ab150161) at 1/2000 dilution was used as the secondary antibody.



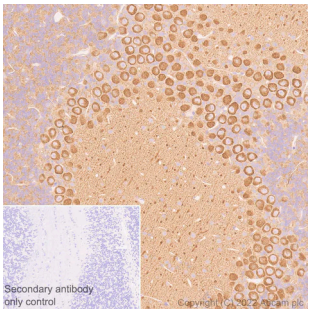
Immunocytochemistry/ Immunofluorescence - Anti-non-muscle Myosin IIB/MYH10 antibody [EPR22564-23] - Rat IgG2a (Chimeric) (ab300647)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labeling non-muscle Myosin IIB/MYH10 with ab300647 at 1/50 dilution (23.04 µg/ml), followed by ab150157 Goat Anti-Rat IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (2µg/mL) (Green). Confocal image showing cytoskeletal staining in NIH/3T3 cell line. ab179513 Anti-beta Tubulin rabbit monoclonal antibody was used to counterstain tubulin at 1/200 dilution (10µg/ml), followed by ab150080 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 594) at a 1/500 dilution (4µg/mL) (Red). The nuclear counterstain was DAPI (Blue). -ve control 1: ab300647 at a 1/50 dilution followed by ab150080 at a 1/500 dilution. -ve control 2: ab179513 at a 1/200 dilution followed by ab150157 at a 1/1000 dilution.



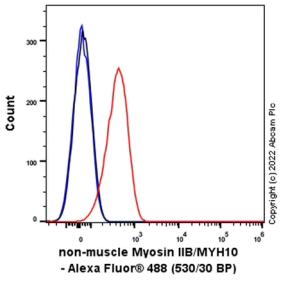
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Immunohistochemical analysis of paraffin-embedded rat cerebellum tissue labeling non-muscle Myosin IIB/MYH10 with ab300647 at 1/500 dilution (2.304 µg/ml) followed by ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Positive staining on rat cerebellum. The section was incubated with ab300647 for 30 mins at room temperature, followed by anti-rat IgG antibody (ab102248) 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 with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



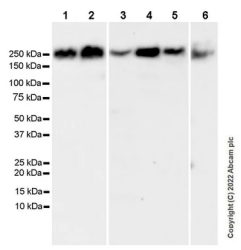
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Immunohistochemical analysis of paraffin-embedded mouse cerebellum tissue labeling non-muscle Myosin IIB/MYH10 with ab300647 at 1/500 dilution (2.304 µg/ml) followed by ready to use LeicaDS9800 (Bond® Polymer Refine Detection). Positive staining on mouse cerebellum. The section was incubated with ab300647 for 30 mins at room temperature, followed by anti-rat IgG antibody (ab102248) 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 with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



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Western blot - Anti-non-muscle Myosin IIB/MYH10 antibody [EPR22564-23] - Rat IgG2a (Chimeric) (ab300647)

Non-muscle Myosin IIB/MYH10 Western blot staining using rat Anti-non-muscle Myosin IIB/MYH10 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST. Exposure times: Lane 1-2: 10 seconds Lane 3-6: 37 seconds
All lanes:
Western blot - Anti-non-muscle Myosin IIB/MYH10 antibody [EPR22564-23] - Rat IgG2a (Chimeric) (ab300647) at 1/1000 dilution

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

Lane 2:
293T (human embryonic kidney epithelial cell), whole cell lysate at 20 µg

Lane 3:
Human lung tissue lysate at 20 µg

Lane 4:
Mouse lung tissue lysate at 20 µg

Lane 5:
Mouse brain tissue lysate at 20 µg

Lane 6:
Rat brain tissue lysate at 20 µg

Secondary

All lanes:
Peroxidase-Conjugated Goat anti-Mouse IgG (H+L) at 1/5000 dilution

Observed band size: 250 kDa

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