abcam

ab236073

Anti-non-muscle Myosin IIA antibody [EPR8965] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	EPR8965
Purification technique	Affinity purification Protein A
Concentration	1.008 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-

Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

WB

Tested

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

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

Target data

See full target information Myosin-9

Function	Cellular myosin that appears to play a role in cytokinesis, cell shape, and specialized functions such as secretion and capping. Required for cortical actin clearance prior to oocyte exocytosis (By similarity). Promotes cell motility in conjunction with S100A4 (PubMed:16707441). During cell spreading, plays an important role in cytoskeleton reorganization, focal contact formation (in the margins but not the central part of spreading cells), and lamellipodial retraction; this function is mechanically antagonized by MYH10 (PubMed:20052411). (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 conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab236073 is the carrier-free version of ab138498.

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	Non-muscle Myosin IIA also known as Myosin Heavy Chain 9 or Myosin-9 is a motor protein that enables cellular mechanical tasks such as actin filament cross-linking and contraction. It has a molecular mass of approximately 226 kDa. Myosin IIA is expressed in a variety of cell types including epithelial cells fibroblasts and leukocytes where it contributes to various cellular activities. Myosin staining often reveals its localization at the leading edge of migrating cells revealing its involvement in cell movement.
Biological function summary	Non-muscle Myosin IIA plays an essential role in maintaining cell shape and promoting cell division. It combines with other myosin proteins into a complex often in conjunction with actin filaments. This myosin protein group further facilitates processes like cytokinesis and cellular migration. Myosin IIA's complex interactions allow cells to adapt to different mechanical stresses ensuring that cells can move and divide properly within the tissue architecture.
Pathways	Non-muscle Myosin IIA participates in both the RhoA/ROCK pathway and the actin cytoskeleton regulation pathway. Through these pathways Myosin IIA interacts with other key proteins such as Rho-associated protein kinase to mediate several cellular functions like cell shape changes and motility. These interactions allow Myosin IIA to efficiently transmit mechanical signals and respond to extracellular stimuli.
Associated diseases and disorders	Research links non-muscle Myosin IIA with specific conditions like cancer invasion and cardiovascular disorders. Abnormal function or expression of Myosin IIA can contribute to altered cell motility resulting in cancer metastasis. Additionally mutations or disruptions in Myosin IIA can associate with conditions such as thrombocytopenia. Proteins like integrins interact with Myosin IIA in these disease states highlighting their critical roles in pathological settings.

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

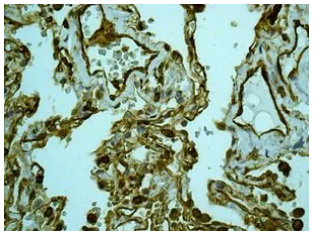
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images

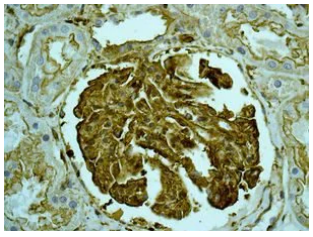


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-non-muscle Myosin IIA antibody [EPR8965] - BSA and Azide free (ab236073)

Non-muscle Myosin IIA Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-non-muscle Myosin IIA antibody

Immunohistochemical analysis of paraffin embedded Human lung tissue labelling non-muscle Myosin IIA with ab138498 antibody at a dilution of 1/250.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab138498).

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

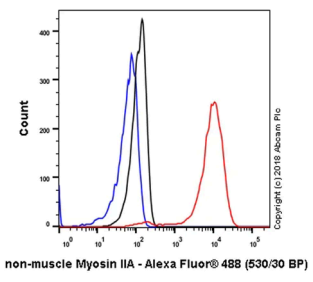


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-non-muscle Myosin IIA antibody [EPR8965] - BSA and Azide free (ab236073)

Non-muscle Myosin IIA Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-non-muscle Myosin IIA antibody

Immunohistochemical analysis of paraffin embedded Human kidney tissue labelling non-muscle Myosin IIA with ab138498 antibody at a dilution of 1/250.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab138498).

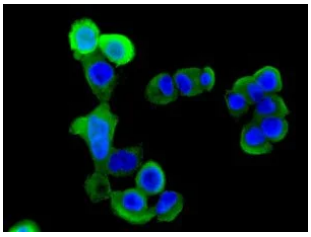
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-non-muscle Myosin IIA antibody [EPR8965] - BSA and Azide free (ab236073)

Non-muscle Myosin IIA Flow Cytometry (Intracellular) staining using rabbit Anti-non-muscle Myosin IIA antibody

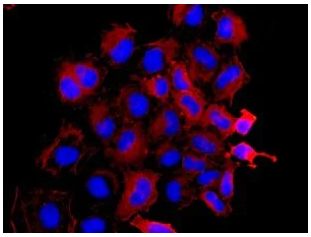
This data was developed using ab138498, the same antibody clone in a different buffer formulation. Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling non-muscle Myosin IIA with purified ab138498 at 1/20 dilution (10 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cells without incubation with primary antibody and secondary antibody (Blue).



Immunocytochemistry/ Immunofluorescence - Anti-non-muscle Myosin IIA antibody [EPR8965] - BSA and Azide free (ab236073)

Non-muscle Myosin IIA Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-non-muscle Myosin IIA antibody

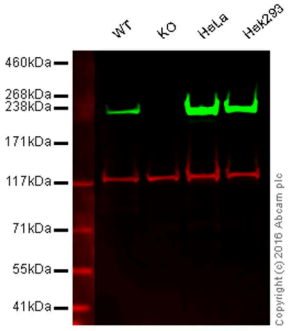
Immunofluorescent analysis of A431 cells labelling non-muscle Myosin IIA with ab138498 at 1/250 dilution. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab138498).



Immunocytochemistry/ Immunofluorescence - Anti-non-muscle Myosin IIA antibody [EPR8965] - BSA and Azide free (ab236073)

Non-muscle Myosin IIA Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-non-muscle Myosin IIA antibody

Immunofluorescent analysis of HeLa cells labelling non-muscle Myosin IIA with ab138498 at 1/250 dilution. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab138498).



Western blot - Anti-non-muscle Myosin IIA antibody [EPR8965] - BSA and Azide free (ab236073)

Non-muscle Myosin IIA Western blot staining using rabbit Anti-non-muscle Myosin IIA antibody

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: non-muscle Myosin IIA knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lane 4: HEK293 cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab138498 observed at 230 kDa. Red - loading control, ab18058, observed at 124 kDa.

ab138498 was shown to specifically react with non-muscle Myosin IIA in wild-type HAP1 cells. No band was observed when non-muscle Myosin IIA knockout samples were examined. Wild-type and non-muscle Myosin IIA knockout samples were subjected to SDS-PAGE. ab138498 at a dilution of 1/1000 and ab18058 (loading control to Vinculin) at a dilution of 1/10,000 were incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/10,000 dilution for 1 hour at room temperature before imaging.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab138498).

All lanes:
Western blot - Anti-non-muscle Myosin IIA antibody [EPR8965] (ab138498)

Predicted band size: 227 kDa

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