abcam

ab318197

Anti-Myocilin antibody [EPR28799-15]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
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	EPR28799-15
Purification technique	Affinity purification Protein A
Concentration	0.495 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	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Species	Mouse
Dilution info	1/500
Notes	-

Species	Rat
Dilution info	1/500
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Species	Mouse
Dilution info	1/50
Notes	-

Species	Rat
Dilution info	1/50

Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information MYOC

Function

Secreted glycoprotein regulating the activation of different signaling pathways in adjacent cells to control different processes including cell adhesion, cell-matrix adhesion, cytoskeleton organization and cell migration. Promotes substrate adhesion, spreading and formation of focal contacts. Negatively regulates cell-matrix adhesion and stress fiber assembly through Rho protein signal transduction. Modulates the organization of actin cytoskeleton by stimulating the formation of stress fibers through interactions with components of Wnt signaling pathways. Promotes cell migration through activation of PTK2 and the downstream phosphatidylinositol 3-kinase signaling. Plays a role in bone formation and promotes osteoblast differentiation in a dose-dependent manner through mitogen-activated protein kinase signaling. Mediates myelination in the peripheral nervous system through ERBB2/ERBB3 signaling. Plays a role as a regulator of muscle hypertrophy through the components of dystrophin-associated protein complex. Involved in positive regulation of mitochondrial depolarization. Plays a role in neurite outgrowth. May participate in the obstruction of fluid outflow in the trabecular meshwork.

Storage

Shipped at conditions	Conditional Ambient

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

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.

Supplementary info

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

Activity summary	Myocilin also known as Trabecular Meshwork Inducible Glucocorticoid Response protein (TIGR) is a protein mainly involved in ocular processes. It weighs about 55 kDa and contains several key domains including a leucine zipper motif and an olfactomedin-like domain. Myocilin is abundantly expressed in the trabecular meshwork of the eye skeletal muscle heart and brain. The protein appears in both intracellular and secreted forms and undergoes glycosylation.
Biological function summary	This protein plays an important role in the regulation of intraocular pressure by influencing the outflow of aqueous humor through the trabecular meshwork. It is also known to be part of a protein complex that interacts with other extracellular matrix components to maintain the structural integrity of tissues. Beyond the eye Myocilin similarly contributes to cellular processes in other tissues assisting in maintaining cellular structure and integrity.
Pathways	Myocilin functions within the Wnt signaling pathway and extracellular matrix-receptor interaction pathway. These pathways are significant in regulating cell growth adhesion and differentiation in various tissues. In the Wnt signaling

	pathway Myocilin interacts with proteins such as Frizzled receptors affecting the downstream effects on cell behavior and fate. In the extracellular matrix pathway Myocilin associates with collagens and laminins influencing tissue architecture and dynamics.
Associated diseases and disorders	Myocilin plays a significant role in glaucoma and Myocilin-related ocular hypertension. Glaucoma often involves elevated intraocular pressure due to impaired aqueous humor outflow in which mutated Myocilin may not function properly affecting cellular interactions and contributing to disease progression. Links have been identified with proteins like optineurin in the context of glaucoma where these proteins can collectively influence disease pathophysiology and lead to optic nerve damage if dysregulated.

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

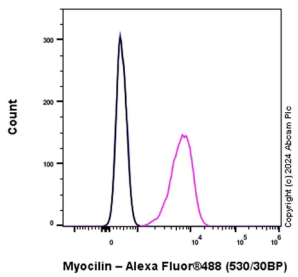
We do not recommend this combination. It is not covered by our product promise.

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.

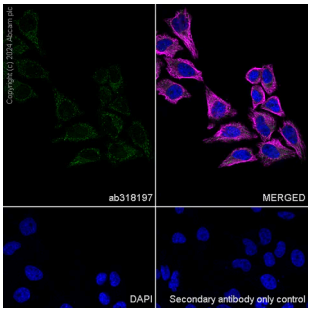
9 product images



Flow Cytometry (Intracellular) - Anti-Myocilin antibody [EPR28799-15] (ab318197)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling Myocilin with ab318197 at 1/500 dilution (0.1ug) / Magenta (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



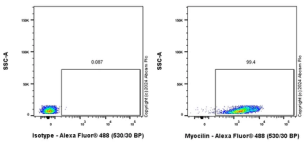
Immunocytochemistry/ Immunofluorescence - Anti-Myocilin antibody [EPR28799-15] (ab318197)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling Myocilin with ab318197 at 1/500 (1.016 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing cytoplasmic staining in HeLa cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

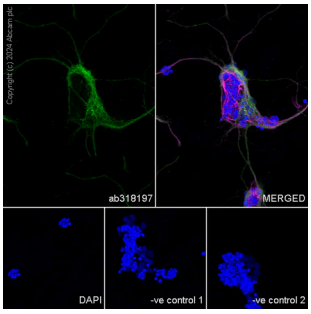
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Flow Cytometry (Intracellular) - Anti-Myocilin antibody [EPR28799-15] (ab318197)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Mouse retina cells labelling Myocilin with ab318197 at 1/50 dilution (1ug) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype contro.

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-Myocilin antibody [EPR28799-15] (ab318197)

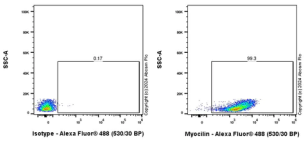
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized rat primary retina cells labelling Myocilin with ab318197 at 1/500 (1.016 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing cytoplasmic staining in rat primary retina (shown in green). The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue). Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z

projection.
The image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab11267 Anti-MAP2 mouse monoclonal antibody was used to counterstain tubulin at 1/500 4 ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

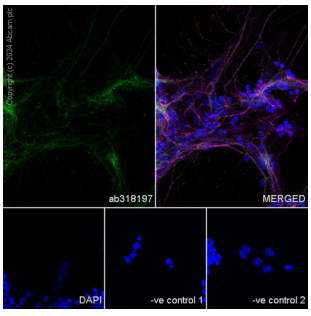
-ve control 1: ab318197 at 1/500 (1.016 ug/ml) dilution, followed by ab150120 Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) at 1/1000 2 ug/mL dilution.
-ve control 2: ab11267 1/500 4ug/ml dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution.



Flow Cytometry (Intracellular) - Anti-Myocilin antibody [EPR28799-15] (ab318197)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Rat retina cells labelling Myocilin with ab318197 at 1/50 dilution (1ug) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype contro.

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



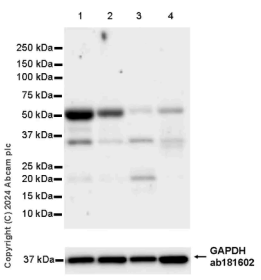
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Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized mouse primary retina cells labelling Myocilin with ab318197 at 1/500 (1.016 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing cytoplasmic staining in mouse primary retina (shown in green). The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue). Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection.
The image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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-ve control 1: ab318197 at 1/500 (1.016 ug/ml) dilution, followed by ab150120 Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) at 1/1000 2 ug/mL dilution.
-ve control 2: ab11267 1/500 4ug/ml dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution.



Western blot - Anti-Myocilin antibody [EPR28799-15] (ab318197)

Myocilin Western blot staining using rabbit Anti-Myocilin antibody

Low expression: Human spleen and liver (PMID: 10320784).

The bands beneath the target band (20~37 kDa) are likely to be degraded target fragments.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-Myocilin antibody [EPR28799-15] (ab318197) at 1/1000 dilution

Lane 1:
Human eyeball tissue lysate at 20 µg

Lane 2:
Human testis tissue lysate at 20 µg

Lane 3:
Human spleen tissue lysate at 20 µg

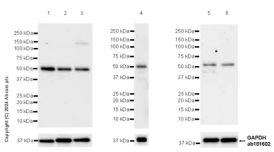
Lane 4:
Human liver tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 55 kDa, 36 kDa

Exposure time: 103s



Western blot - Anti-Myocilin antibody [EPR28799-15] (ab318197)

Myocilin Western blot staining using rabbit Anti-Myocilin antibody

The identity of the higher MW band at approximately 150kDa (Lane 3) is unknown.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

Exposure time: Lane 1-3: 92 seconds; Lane 4-6: 180 seconds

All lanes:
Western blot - Anti-Myocilin antibody [EPR28799-15] (ab318197) at 1/1000 dilution

Lane 1:
Neuro-2a (mouse neuroblastoma neuroblast) whole fresh cell lysate at 20 µg

Lane 2:
U-87 MG (human glioblastoma-astrocytoma epithelial cell) whole fresh cell lysate at 20 µg

Lane 3:
SH-SY5Y (human neuroblastoma epithelial cell) whole fresh cell lysate at 20 µg

Lane 4:
HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate at 20 µg

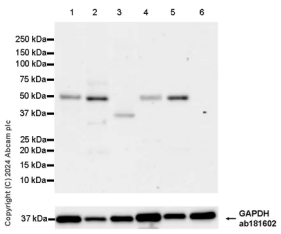
Lane 5:
MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 6:
C2C12 (mouse myoblast) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 55 kDa, 36 kDa



Western blot - Anti-Myocilin antibody [EPR28799-15] (ab318197)

Myocilin Western blot staining using rabbit Anti-Myocilin antibody

Low expression: Mouse and rat liver (PMID: 10320784).

The identity of the lower MW band at approximately 37kDa (Lane 3) is unknown.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-Myocilin antibody [EPR28799-15] (ab318197) at 1/1000 dilution

Lane 1:
Mouse retina tissue lysate at 20 µg

Lane 2:
Mouse testis tissue lysate at 20 µg

Lane 3:
Mouse liver tissue lysate at 20 µg

Lane 4:
Rat retina tissue lysate at 20 µg

Lane 5:
Rat testis tissue lysate at 20 µg

Lane 6:
Rat liver tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 55 kDa, 36 kDa

Exposure time: 92s

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