abcam

ab309348

Anti-MBNL1 antibody [EPR26983-11]

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	EPR26983-11
Purification technique	Affinity purification Protein A
Concentration	0.488 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	Transfected cell lysate
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

Species	Rat, Transfected cell lysate
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500

Notes	-

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

Species	Rat, Transfected cell lysate
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Species	Mouse
Dilution info	1/30
Notes	-

Not recommended

Species	Rat, Transfected cell lysate
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat, Transfected cell lysate
Dilution info	-

Notes	-

Target data

See full target information MBNL1

Function	Mediates pre-mRNA alternative splicing regulation. Acts either as activator or repressor of splicing on specific pre-mRNA targets. Inhibits cardiac troponin-T (TNNT2) pre-mRNA exon inclusion but induces insulin receptor (IR) pre-mRNA exon inclusion in muscle. Antagonizes the alternative splicing activity pattern of CELF proteins. Regulates the TNNT2 exon 5 skipping through competition with U2AF2. Inhibits the formation of the spliceosome A complex on intron 4 of TNNT2 pre-mRNA. Binds to the stem-loop structure within the polypyrimidine tract of TNNT2 intron 4 during spliceosome assembly. Binds to the 5'-YGCU(U/G)Y-3'consensus sequence. Binds to the IR RNA. Binds to expanded CUG repeat RNA, which folds into a hairpin structure containing GC base pairs and bulged, unpaired U residues. Together with RNA binding proteins RBPMS and RBFOX2, activates vascular smooth muscle cells alternative splicing events (PubMed:37548402). Regulates NCOR2 alternative splicing (By similarity).

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	The MBNL1 protein also known as Muscleblind-like protein 1 or MBNL1 is a RNA-binding protein with a molecular mass of approximately 38 kDa. This protein has a central role in the regulation of alternative splicing. It binds to specific RNA motifs and affects the splicing of pre-mRNA. MBNL1 is expressed widely in many tissues including skeletal and cardiac muscles as well as the brain indicating its wide-ranging importance in various cellular processes.
Biological function summary	The MBNL1 protein is involved in the regulation of mRNA metabolism. It functions not just individually but often as a part of larger ribonucleic complexes impacting RNA stability and translation. MBNL1 controls the alternative splicing of numerous transcripts which is necessary for the proper development and function of tissues. Disruptions in MBNL1 activity can lead to mis-splicing of transcripts which demonstrates the key role it plays in maintaining cellular homeostasis.
Pathways	The MBNL1 protein contributes significantly to splicing regulation and muscle-specific gene expression pathways. It interacts with proteins like CELF1 which modulate pre-mRNA processing. These pathways are vital for muscle cell differentiation and maintenance with MBNL1 acting alongside other splicing factors to ensure the correct expression patterns necessary for tissue-specific functions. The balance between MBNL1 and its interacting partners influences splicing outcomes and gene expression.
Associated diseases and disorders	The dysregulation of MBNL1 activity is implicated in myotonic dystrophy type 1 (DM1) and myotonic dystrophy type 2 (DM2). In these conditions expanded CUG or CCUG repeat RNAs sequester MBNL1 disrupting its function and leading to splicing abnormalities. Through this mechanism MBNL1 connects to other proteins like CUGBP1 which also influences splicing in muscle and other tissues. The resulting mis-splicing from impaired MBNL1 activity underlies many symptoms seen in these muscular disorders highlighting the protein's clinical relevance.

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.

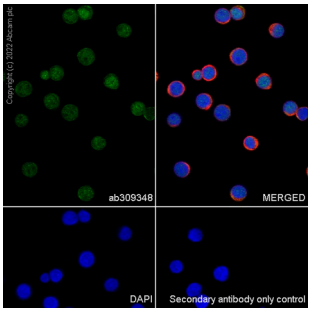
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

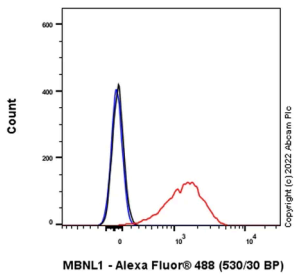
---

9 product images



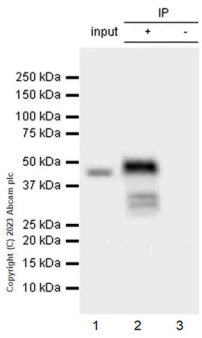
Immunocytochemistry/ Immunofluorescence - Anti-MBNL1 antibody [EPR26983-11] (ab309348)

Immunofluorescent analysis of 80% Methanol-fixed, 0.1% TritonX-100 permeabilized Jurkat (human T cell leukemia T lymphocyte) cells labelling MBNL1 with ab309348 at 1/500 (0.976 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2ug/ml dilution (Green). Confocal image showing nuclear and weak cytoplasmic staining in Jurkat cell line. 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 (Red). 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 2ug/ml dilution.



Flow Cytometry (Intracellular) - Anti-MBNL1 antibody [EPR26983-11] (ab309348)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Jurkat (human T cell leukemia T lymphocyte from peripheral blood) cells labelling MBNL1 with ab309348 at 1/500 dilution (0.1 ug)(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). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-MBNL1 antibody [EPR26983-11] (ab309348)

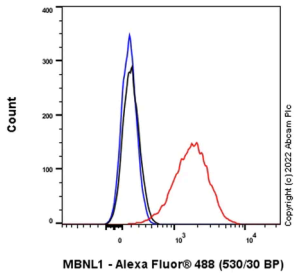
MBNL1 was immunoprecipitated from 0.35 mg Jurkat (human t cell leukemia t lymphocyte from peripheral blood) whole cell lysate with ab309348 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab309348 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution. Lane 1: Jurkat (human t cell leukemia t lymphocyte from peripheral blood) whole cell lysate 10 ug Lane 2: Jurkat (human t cell leukemia t lymphocyte from peripheral blood) whole cell lysate Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab309348 in Jurkat whole cell lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 3 seconds
All lanes:
Immunoprecipitation - Anti-MBNL1 antibody [EPR26983-11] (ab309348) at 1/30 dilution

All lanes:
Jurkat (human t cell leukemia t lymphocyte from peripheral blood) whole cell lysate

Secondary

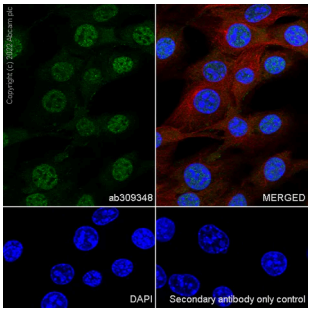
All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 3s



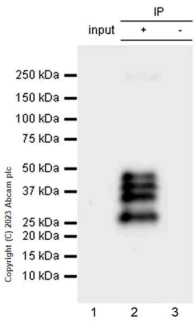
Flow Cytometry (Intracellular) - Anti-MBNL1 antibody [EPR26983-11] (ab309348)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized C2C12 (mouse myoblast) cells labelling MBNL1 with ab309348 at 1/500 dilution (0.1 ug) (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). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-MBNL1 antibody [EPR26983-11] (ab309348)

Immunofluorescent analysis of 100% methanol-fixed, 0.1% TritonX-100 permeabilized C2C12 (mouse myoblasts) cells labelling MBNL1 with ab309348 at 1/500 (0.976 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2ug/ml dilution (Green). Confocal image showing nuclear and weak cytoplasmic staining in C2C12 cell line. 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 (Red). 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 2ug/ml dilution.



Immunoprecipitation - Anti-MBNL1 antibody [EPR26983-11] (ab309348)

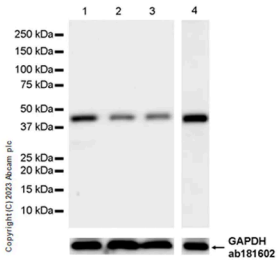
MBNL1 was immunoprecipitated from 0.35 mg C2C12 (mouse myoblast) whole cell lysate with ab309348 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab309348 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP) (ab131366) was used at 1/5000 dilution. Lane 1: C2C12 (mouse myoblast) whole cell lysate 10 ug Lane 2: C2C12 (mouse myoblast) whole cell lysate Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab309348 in C2C12 whole cell lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 15 seconds.
All lanes:
Immunoprecipitation - Anti-MBNL1 antibody [EPR26983-11] (ab309348) at 1/30 dilution

All lanes:
C2C12 (mouse myoblast) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 15s



Western blot - Anti-MBNL1 antibody [EPR26983-11] (ab309348)

Blocking and diluting buffer and concentration: 5% NFDM/TBST In Western blot, anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution. Exposure time: Lanes 1-3: 6 seconds; Lane 4: 37 seconds.
All lanes:
Western blot - Anti-MBNL1 antibody [EPR26983-11] (ab309348) at 1/1000 dilution

Lane 1:
Jurkat (human t cell leukemia t lymphocyte from peripheral blood) transfected with scrambled siRNA control whole cell lysate at 20 µg

Lane 2:
Jurkat transfected with siRNA 1 specifically targeti MBNL1 whole cell lysate at 20 µg

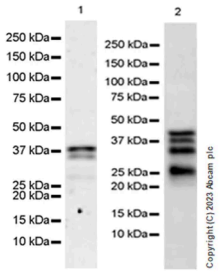
Lane 3:
Jurkat transfected with siRNA 2 specifically targeti MBNL1 whole cell lysate at 20 µg

Lane 4:
HeLa (human cervical adenocarcinoma epithelial cell) 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: 42 kDa



Western blot - Anti-MBNL1 antibody [EPR26983-11] (ab309348)

MBNL1 Western blot staining using rabbit Anti-MBNL1 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST

The molecular weight observed is consistent with what has been described in the literature (PMID: 23949219 PMID:16864772).

Exposure time: Lane 1: 180 seconds; Lane 2: 136 seconds.

All lanes:
Western blot - Anti-MBNL1 antibody [EPR26983-11] (ab309348) at 1/1000 dilution

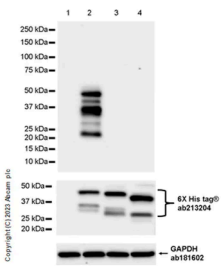
Lane 1:
Mouse heart tissue lysate at 20 µg

Lane 2:
C2C12 (mouse myoblast) 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: 42 kDa, 38 kDa, 34 kDa, 26 kDa



Western blot - Anti-MBNL1 antibody [EPR26983-11] (ab309348)

Blocking and diluting buffer and concentration: 5% NFDM/TBST This antibody does not cross-react with human MBNL2 and MBNL3. In Western blot, anti-His antibody (ab213204) staining at 1/5000 dilution. In Western blot, anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution. Exposure time: 8 seconds.
All lanes:
Western blot - Anti-MBNL1 antibody [EPR26983-11] (ab309348) at 1/1000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) transfected with an empty vector containing a myc-His-tag® whole cell lysate at 10 µg

Lane 2:
293T transfected with MBNL1(WT) expression vector containing a myc-His-tag® whole cell lysate at 10 µg

Lane 3:
293T transfected with MBNL2(WT) expression vector containing a myc-His-tag® whole cell lysate at 10 µg

Lane 4:
293T transfected with MBNL3(WT) expression vector containing a myc-His-tag® whole cell lysate at 10 µg

Secondary

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

Observed band size: 42 kDa, 38 kDa, 34 kDa, 26 kDa

Exposure time: 8s

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