abcam

ab309094

Anti-RBPMS antibody [EPR27130-21]

Recombinant | RabMAb | Advanced Validation | 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	EPR27130-21
Purification technique	Affinity purification Protein A
Concentration	0.525 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Recombinant fragment - Human
Dilution info	1/1000
Notes	-

Species	Human

Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	-

Species	Mouse
Dilution info	1/50
Notes	-

Not recommended

Species	Rat, Recombinant fragment - Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Human, Recombinant fragment - Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Rat, Recombinant fragment - Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Human, Rat, Recombinant fragment - Human
Dilution info	-
Notes	-

mIHC

Tested

Species	Mouse
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat

Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Human, Recombinant fragment - Human
Dilution info	-
Notes	-

Target data

See full target information RBPMS

Function

Isoform A. RNA binding protein that mediates the regulation of pre-mRNA alternative splicing (AS) (PubMed:24860013, PubMed:26347403). Acts either as activator (FLNB, HSPG2, LIPA1, MYOCD, PTPRF and PPFIBP1) or repressor (TPM1, ACTN1, ITGA7, PIEZO1, LSM14B, MBNL1 and MBML2) of splicing events on specific pre-mRNA targets (By similarity). Together with RNA binding proteins RBFOX2 and MBNL1/2, activates a splicing program associated with differentiated contractile vascular smooth muscle cells (SMC) by regulating AS of numerous pre-mRNA involved in actin cytoskeleton and focal adhesion machineries, suggesting a role in promoting a cell differentiated state (By similarity). Binds to introns, exons and 3'-UTR associated with tandem CAC trinucleotide motifs separated by a variable spacer region, at a minimum as a dimer. The minimal length of RNA required for RBPMS-binding tandem CAC motifs is 15 nt, with spacing ranging from 1 to 9 nt. Can also bind to CA dinucleotide repeats (PubMed:24860013, PubMed:26347403). Mediates repression of TPM1 exon 3 by binding to CAC tandem repeats in the flanking intronic regions, followed by higher-order oligomerization and heterotypic interactions with other splicing regulators including MBNL1 and RBFOX2, which prevents assembly of ATP-dependent splicing complexes (By similarity). Isoform C. Acts as a regulator of pre-mRNA alternative splicing (AS) (By similarity). Binds mRNA (PubMed:17099224). Regulates AS of ACTN1, FLNB, although with lower efficiency than isoform A / RBPMSA (By similarity). Acts as coactivator of SMAD transcriptional activity in a TGFB1-dependent manner, possibly through increased phosphorylation of SMAD2 and SMAD3 at the C-terminal SSXS regions and promotion of the nuclear accumulation of SMAD proteins (PubMed:17099224).

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	RBPMS also known as RNA Binding Protein with Multiple Splicing is an important component in RNA processing. It weighs approximately 24 kDa and is widely expressed in human tissues with significant presence in the central nervous system and heart. The protein engages directly with RNA molecules impacting their stability and translation. Its structure allows it to bind specifically to RNA influencing the fate of transcripts by modulating their processing and transport.
Biological function summary	RBPMS plays a role in the regulation of gene expression by interacting with other proteins to form ribonucleoprotein complexes. These complexes are important for the post-transcriptional management of gene expression impacting mRNA splicing and localization. RBPMS also exhibits involvement in the development of neuronal cells where it contributes to neuronal differentiation and growth by aiding in the precise processing of specific mRNA transcripts that are essential for neural functions.
Pathways	RBPMS participates in the regulation of the mRNA splicing and transport pathways. It interacts with the spliceosome complex influencing alternative splicing events that generate diverse protein isoforms. RBPMS is associated with proteins such as SMN1 which also plays a part in mRNA processing and is integral to the spliceosomal machinery. These interactions make RBPMS a pivotal mediator

	in translating genetic information into functional proteins therefore affecting cellular growth and differentiation.
Associated diseases and disorders	Mutations or altered expression of RBPMS have links to neurodegenerative diseases like amyotrophic lateral sclerosis (ALS) and cardiovascular disorders. In ALS RBPMS along with proteins like TDP-43 becomes misregulated contributing to disease pathogenesis by disrupting normal RNA processing and splicing patterns. In the heart compromised expression levels of RBPMS can lead to aberrant cardiac function where it might associate with proteins such as Troponin T implicating it in heart muscle contraction regulation essential for maintaining cardiac health.

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

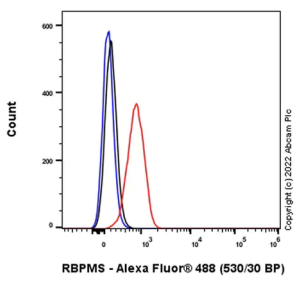
We do not recommend this combination. It is not covered by our product promise.

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.

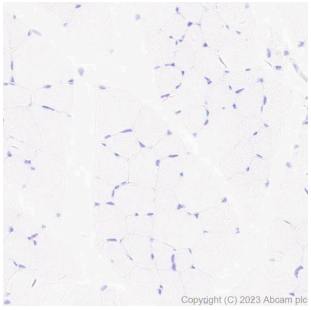
12 product images



Flow Cytometry (Intracellular) - Anti-RBPMS antibody [EPR27130-21] (ab309094)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized A549 (human lung carcinoma epithelial cell) cells labeling RBPMS with ab309094 at 1/50 dilution (1 ug)/Red (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody)

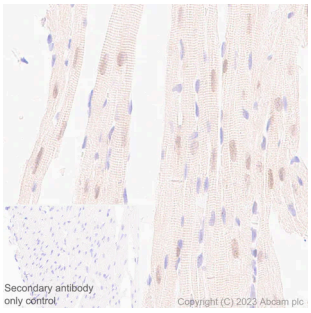
(Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RBPMS antibody [EPR27130-21] (ab309094)

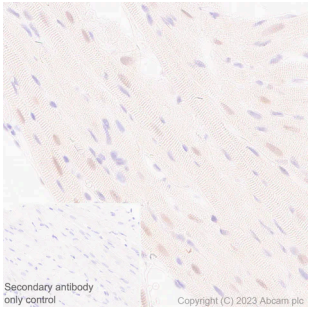
RBPMS Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat skeletal muscle using rabbit Anti-RBPMS antibody

Immunohistochemical analysis of paraffin-embedded Rat skeletal muscle tissue labeling RBPMS with ab309094 at 1/2000 (0.263 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Negative control: no staining on rat skeletal muscle. The section was incubated with ab309094 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



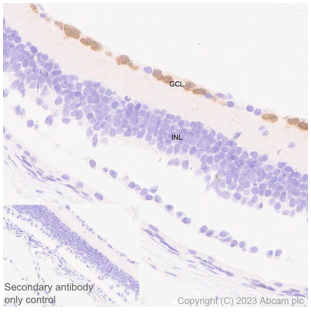
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RBPMS antibody [EPR27130-21] (ab309094)

Immunohistochemical analysis of paraffin-embedded Mouse cardiac muscle tissue labeling RBPMS with ab309094 at 1/2000 (0.263 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on mouse cardiac muscle (PMID: 19737887). The section was incubated with ab309094 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RBPMS antibody [EPR27130-21] (ab309094)

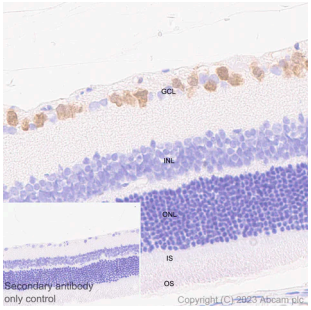
Immunohistochemical analysis of paraffin-embedded Rat cardiac muscle tissue labeling RBPMS with ab309094 at 1/2000 (0.263 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on rat cardiac muscle (PMID: 19737887). The section was incubated with ab309094 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RBPMS antibody [EPR27130-21] (ab309094)

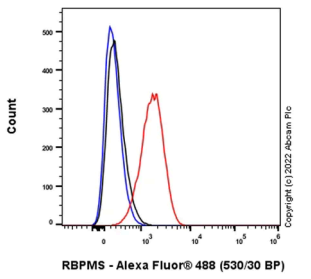
Immunohistochemical analysis of paraffin-embedded Mouse retina tissue labeling RBPMS with ab309094 at 1/2000 (0.263 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on ganglion cell layer of mouse retina (PMID: 24318667). The section was incubated with ab309094 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™

Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



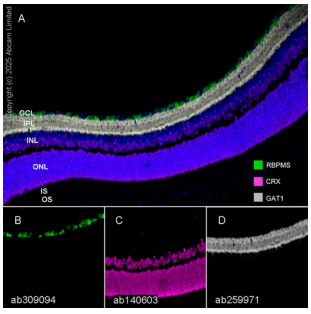
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RBPMS antibody [EPR27130-21] (ab309094)

Immunohistochemical analysis of paraffin-embedded Rat retina tissue labeling RBPMS with ab309094 at 1/2000 (0.263 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining on ganglion cell layer of rat retina. The section was incubated with ab309094 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



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Multiplex immunohistochemistry - Anti-RBPMS antibody [EPR27130-21] (ab309094)

RBPMS Multiplex immunohistochemistry staining of Mouse retina using rabbit Anti-RBPMS antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded mouse retina tissue staining RBPMS with ab309094 at a 1/2000 dilution, ab140603 anti-CPX used at 1/2000 dilution and ab259971 anti-GAT1 used at a 1/500 dilution.
Panel A: merged staining of anti-RBPMS (green; Opal™520), anti-CPX (magenta; Opal™690) and anti-GAT1 (gray; Opal™570) on mouse retina.

Panel B: anti-RBPMS staining ganglion cell layer in mouse retina.

Panel C: ant-CPX staining outer nuclear layer and inner nuclear layer in mouse retina.

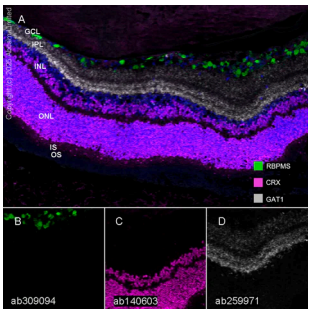
Panel D: ant-GAT1 staining inner plexiform layer in mouse retina.

Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab309094, ab140603 and ab259971 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Multiplex immunohistochemistry - Anti-RBPMS antibody [EPR27130-21] (ab309094)

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Panel B: anti-RBPMS staining ganglion cell layer in rat retina.

Panel C: ant-CPX staining outer nuclear layer and inner nuclear layer in rat retina.

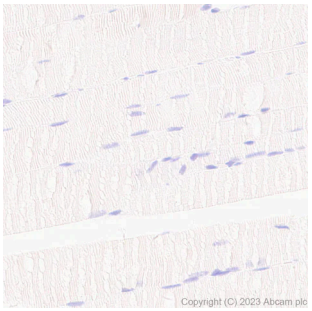
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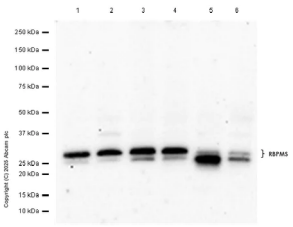
Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RBPMS antibody [EPR27130-21] (ab309094)

RBPMS Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse skeletal muscle using rabbit Anti-RBPMS antibody

Immunohistochemical analysis of paraffin-embedded Mouse skeletal muscle tissue labeling RBPMS with ab309094 at 1/2000 (0.263 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Negative control: no staining on mouse skeletal muscle. The section was incubated with ab309094 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Western blot - Anti-RBPMS antibody [EPR27130-21] (ab309094)

RBPMS Western blot staining using rabbit Anti-RBPMS antibody

Blocking and diluting buffer and concentration: 5% NFDM /TBST.
All lanes:
Western blot - Anti-RBPMS antibody [EPR27130-21] (ab309094) at 1/1000 dilution

Lane 1:
HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
A549 (human lung carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 4:
NIH:OVCAR-3 (human ovary adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 5:
PC-12 (rat adrenal gland pheochromocytoma) whole cell lysate at 20 µg

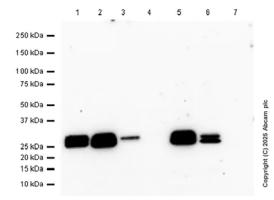
Lane 6:
C2C12 (mouse myoblasts myoblast) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 25 kDa, 30 kDa

Exposure time: 180s



Western blot - Anti-RBPMS antibody [EPR27130-21] (ab309094)

RBPMS Western blot staining using rabbit Anti-RBPMS antibody

Blocking and diluting buffer and concentration: 5% NFDM /TBST. No bands were detected by antibody ab309094 in 20µg retinal tissue lysates. For samples with low RBPMS protein expression levels, we recommend: 1. Increasing lysate load to 50µg 2. Using a lower antibody dilution 3. Using femtogram-level sensitivity substrates
All lanes:
Western blot - Anti-RBPMS antibody [EPR27130-21] (ab309094) at 1/1000 dilution

Lane 1:
Human heart tissue lysate at 20 µg

Lane 2:
Mouse heart tissue lysate at 20 µg

Lane 3:
Mouse kidney tissue lysate at 20 µg

Lane 4:
Mouse retina tissue lysate at 20 µg

Lane 5:
Rat heart tissue lysate at 20 µg

Lane 6:
Rat kidney tissue lysate at 20 µg

Lane 7:
Rat retina tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 25 kDa, 30 kDa

Exposure time: 180s

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