abcam

ab134946

Anti-RBM3 antibody [EPR6061(2)]

Anti-RBM3 antibody [EPR6061(2)] (ab134946) is a rabbit monoclonal antibody detecting RBM3 in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 10 publications

Recombinant | RabMAb | KO Validated | 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	EPR6061(2)
Purification technique	Affinity purification Protein A
Dissociation constant	1.5 x 10^{-10} M
Concentration	0.139 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/300
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/300
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Species	Human
Dilution info	1/300
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

ICC/IF

Tested

Species	Mouse
Dilution info	1/100
Notes	For unpurified use at 1/250 - 1/500.

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	-

Expected

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

Target data

See full target information RBM3

Function	Cold-inducible mRNA binding protein that enhances global protein synthesis at both physiological and mild hypothermic temperatures. Reduces the relative abundance of microRNAs, when overexpressed. Enhances phosphorylation of translation initiation factors and active polysome formation (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

What is this antibody validated in?
Anti-RBM3 antibody [EPR6061(2)] (ab134946) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of RBM3?
Anti-RBM3 [EPR6061(2)] (ab134946) specifically detects a band for RBM3 (UniProt: P98179) at a molecular weight of 17kDa.

Trusted by the scientific community
Anti-RBM3 [EPR6061(2)] (ab134946) was first used in a scientific publication in 2012 and has been cited over 10 times in peer-reviewed journals.

Reviewed by scientists
Anti-RBM3 [EPR6061(2)] (ab134946) has over 5 independent reviews from customers.

Specificity confirmed
The specificity of Anti-RBM3 antibody [EPR6061(2)] (ab134946) has been confirmed by Western blot testing in RBM3 Knockout HEK293T cell line, ab266663.

Other related products
We have a range of other formats of antibody clone [EPR6061(2)] also available for your convenience: ab134946, Carrier free - ab240089, Alexa Fluor® 647 - ab314932, Alexa Fluor® 488 - ab315138

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

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

Activity summary	RBM3 also known as RNA-binding motif protein 3 is a cold-inducible protein with a mass of approximately 17 kDa. It plays a role in binding RNA and is widely expressed in tissues including the brain heart and skeletal muscle. Research often highlights its involvement in temperature response implicating its role in cellular adaptation to cold stress. Overexpression of RBM3 has been documented during hypothermic conditions which suggests an adaptive function in extreme environments.
Biological function summary	RBM3 functions by modulating RNA stability and translation impacting cellular stress responses. It forms part of ribonucleoprotein complexes influencing the processing of several RNA species. The protein enhances mRNA stability under stress conditions and promotes cell survival by impacting protein synthesis. RBM3 also participates in synaptic plasticity which is essential for learning and memory showcasing its extensive influence on cellular functioning.
Pathways	RBM3 significantly contributes to neuroprotection and anti-apoptosis pathways. It is closely linked to pathways dealing with stress granules and mRNA stabilization. A known association exists between RBM3 and proteins such as CIRP (cold-inducible RNA-binding protein) which share similar pathways concerning mRNA regulation under cold conditions. This connection highlights RBM3's role in cell survival and stress management.
Associated diseases and disorders	RBM3 has shown connections to neurodegenerative diseases and cancer. High levels of RBM3 expression correlate with improved outcomes in hypothermia-treated stroke and trauma patients due to its neuroprotective abilities. In cancer RBM3 links with proteins such as HIF-1α (hypoxia-inducible factor-1 alpha) where its overexpression has been associated with tumor progression in certain types suggesting RBM3's dual protective and pathological roles depending on the disease context.

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.

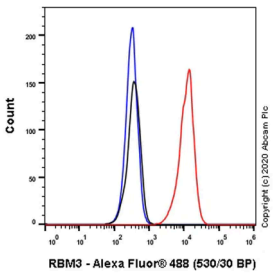
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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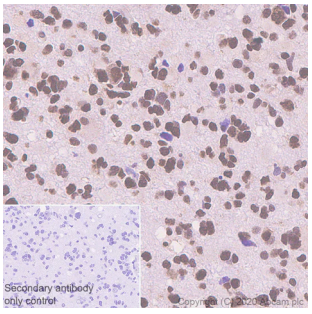
9 product images



Flow Cytometry (Intracellular) - Anti-RBM3 antibody [EPR6061(2)] (ab134946)

RBM3 Flow Cytometry (Intracellular) staining using rabbit Anti-RBM3 antibody

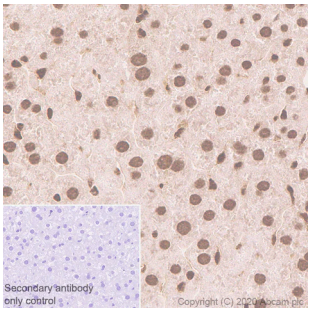
Intracellular Flow Cytometry analysis of HepG2 (Human hepatocellular carcinoma epithelial cell) cells labeling RBM3 with Purified ab134946 at 1/20 dilution (10 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RBM3 antibody [EPR6061(2)] (ab134946)

RBM3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RBM3 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human astrocytoma tissue sections labeling RBM3 with Purified ab134946 at 1/300 dilution (0.44 µg/mL). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.

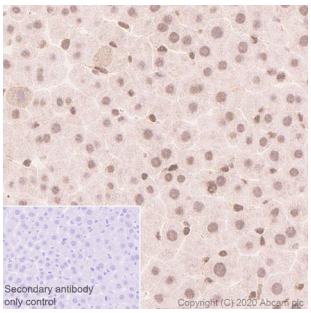


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RBM3 antibody [EPR6061(2)] (ab134946)

RBM3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RBM3 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse liver tissue sections labeling RBM3 with Purified ab134946 at 1/300 dilution (0.44 µg/mL). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC

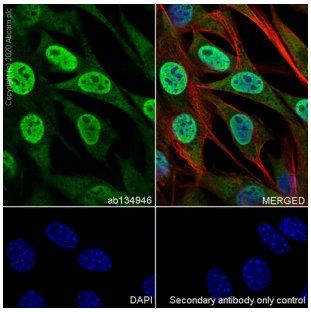
polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RBM3 antibody [EPR6061(2)] (ab134946)

RBM3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RBM3 antibody

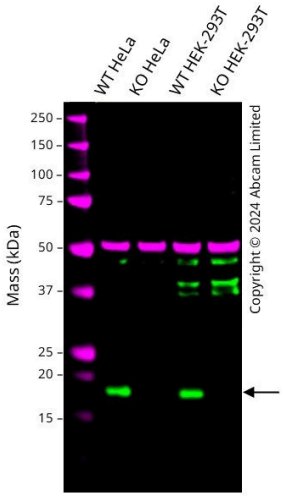
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat liver tissue sections labeling RBM3 with Purified ab134946 at 1/300 dilution (0.44 µg/mL). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunocytochemistry/ Immunofluorescence - Anti-RBM3 antibody [EPR6061(2)] (ab134946)

RBM3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RBM3 antibody

Immunocytochemistry analysis of NIH/3T3 (Mouse embryonic fibroblast) cells labeling RBM3 with Purified ab134946 at 1/100 dilution (1.32 µg/mL). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 dilution (2.5 µg/mL). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 dilution (2 µg/mL). DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Western blot - Anti-RBM3 antibody [EPR6061(2)] (ab134946)

Western blot: Rabbit Monoclonal[EPR6061(2)] to RBM3 ab134946 staining at 1/1000 dilution, shown in green; Mouse anti alpha Tubulin (ab7291) loading control staining at 1/20,000 dilution, shown in magenta. A band was observed at kDa in Wild-type HeLa ab271142 cell lysates with no signal observed at this size in RBM3 knockout HeLa ab274940 cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3pc Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-RBM3 antibody [EPR6061(2)] (ab134946) at 1/1000 dilution

Lane 1:
Wild-type HeLa ab271142 at 20 µg

Lane 2:
RBM3 knockout HeLa ab274940 at 20 µg

Lane 3:
Wild-type HEK-293T at 20 µg

Lane 4:
RBM3 knockout HEK-293T at 20 µg

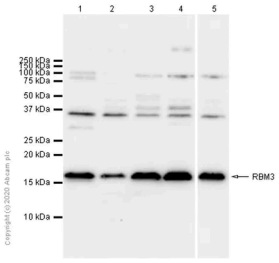
Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 17 kDa

Observed band size: 18 kDa



Western blot - Anti-RBM3 antibody [EPR6061(2)] (ab134946)

RBM3 Western blot staining using rabbit Anti-RBM3 antibody

We are unsure how to define the extra bands.
All lanes:
Western blot - Anti-RBM3 antibody [EPR6061(2)] (ab134946) at 1/1000 dilution

Lane 1:
Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate at 20 µg

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

Lane 3:
Neuro-2a (Mouse neuroblastoma neuroblast) whole cell lysate at 20 µg

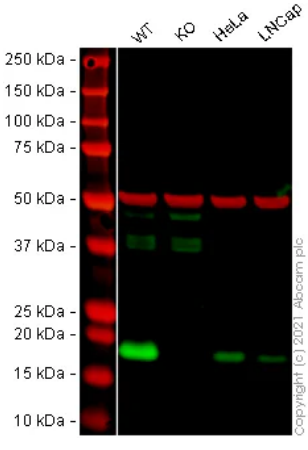
Lane 4:
NIH/3T3 (Mouse embryonic fibroblast) whole cell lysate at 20 µg

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

Secondary

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

Predicted band size: 17 kDa



Western blot - Anti-RBM3 antibody [EPR6061(2)] (ab134946)

RBM3 Western blot staining using rabbit Anti-RBM3 antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab134946 observed at 18 kDa. Red - loading control ab7291 (Mouse anti-Alpha Tubulin [DM1A]) observed at 55 kDa.
ab134946 was shown to react with RBM3 in wild-type HEK-293T cells in Western blot with loss of signal observed in RBM3 knockout cell line ab266663 (RBM3 knockout cell lysate ab258170). Wild-type HEK-293T and RBM3 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab134946 and ab7291 (Mouse anti-Alpha Tubulin [DM1A]) overnight at 4 °C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 h at room temperature before imaging.

All lanes:
Western blot - Anti-RBM3 antibody [EPR6061(2)] (ab134946) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human RBM3 knockout HEK-293T cell lysate (ab258170) at 20 µg

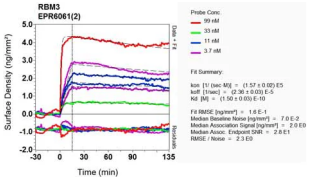
Lane 3:
Hela cell lysate at 20 µg

Lane 4:
LnCap cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 17 kDa

Observed band size: 18 kDa



OI-RD Scanning - Anti-RBM3 antibody [EPR6061(2)] (ab134946)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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