abcam

ab232382

Anti-RRM1 antibody [EPR8483] - BSA and Azide free

Recombinant | RabMAb

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	EPR8483
Purification technique	Affinity purification Protein A
Concentration	1.042 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Target data

See full target information RRM1

Function	Provides the precursors necessary for DNA synthesis. Catalyzes the biosynthesis of deoxyribonucleotides from the corresponding ribonucleotides.

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

ab232382 is the carrier-free version of ab137114.

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	RRM1 also known as ribonucleotide reductase large subunit or RNR1 plays an important role in DNA synthesis and repair converting ribonucleotides to deoxyribonucleotides. This enzyme has a mass of approximately 90 kDa. RRM1 is found in multiple tissues exhibiting especially high expression levels in proliferative tissues and tumors. Its activity is tightly regulated through the cell cycle and it is essential during DNA replication and cell division.
Biological function summary	The large subunit of ribonucleotide reductase contributes to the enzymatic function through binding and activation of smaller subunits including RRM2 and RRM2B forming a complex. This complex is important for maintaining balanced deoxyribonucleotide pools during the S-phase of the cell cycle. Proper RRM1 function ensures the fidelity of DNA synthesis impacting genomic stability and cell viability.
Pathways	RRM1 acts within the DNA replication and repair pathways. It interacts with the tumor suppressor protein p53 which modulates its activities in response to DNA damage. Through pathways like the p53-dependent checkpoint RRM1 contributes to DNA damage response mechanisms. This interaction with p53 and involvement in the DNA replication pathway highlight its centrality in maintaining genomic integrity.
Associated diseases and disorders	RRM1 has connections with cancer and chemoresistance. Overexpression of RRM1 often correlates with increased tumor aggressiveness and poor prognosis in several cancers including lung and pancreatic cancers. In the context of chemoresistance RRM1 interplays with the excision repair cross-complementation group 1 protein (ERCC1) impacting the effectiveness of certain chemotherapies. Its role in these conditions makes it a target for cancer diagnosis and treatment strategies.

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.

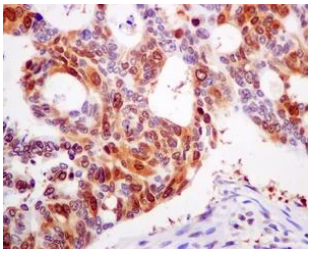
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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8 product images

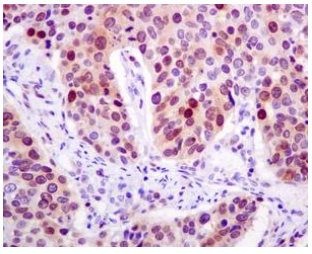


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RRM1 antibody [EPR8483] - BSA and Azide free (ab232382)

RRM1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RRM1 antibody

Formalin-fixed, paraffin-embedded human colon carcinoma tissue stained for RRM1 with ab137114 (1/100 dilution) in immunohistochemical analysis.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137114).

Heat mediated antigen retrieval was performed with citrate buffer pH 6 before commencing with IHC staining protocol.

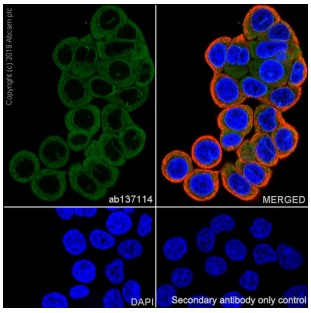


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RRM1 antibody [EPR8483] - BSA and Azide free (ab232382)

RRM1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RRM1 antibody

Immunohistochemical analysis of paraffin-embedded Human lung carcinoma tissue labelling RRM1 with ab137114 at 1/100 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137114).

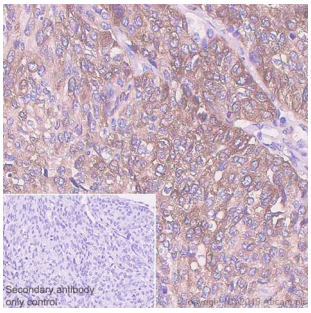
Heat mediated antigen retrieval was performed with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-RRM1 antibody [EPR8483] - BSA and Azide free (ab232382)

RRM1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RRM1 antibody

Immunocytochemistry/ Immunofluorescence analysis of HT-29 (Human colorectal adenocarcinoma epithelial cell) cells labeling RRM1 with purified ab137114 at 1/100 dilution (9.5 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 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137114)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RRM1 antibody [EPR8483] - BSA and Azide free (ab232382)

RRM1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RRM1 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human lung carcinoma tissue sections labeling RRM1 with purified ab137114 at 1/1000 dilution (0.95 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137114)

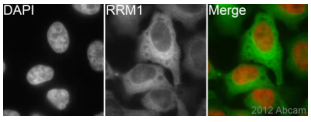
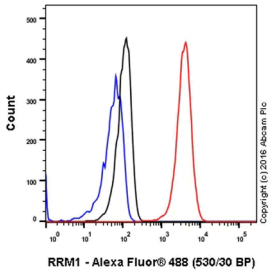


Image courtesy of a customer review submitted by Dr. Kirk McManus, Univ. of Manitoba/Cancer Care MICB, Canada

Immunocytochemistry/ Immunofluorescence - Anti-RRM1 antibody [EPR8483] - BSA and Azide free (ab232382)

RRM1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RRM1 antibody

ab137114 (1/200) staining RRM1 in Hela cells (green). Cells were fixed in paraformaldehyde, permeabilised in 0.5%Triton X-100/PBS and counterstained with DAPI in order to highlight the nucleus (red). For further experimental details please refer to Abreview.This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137114).



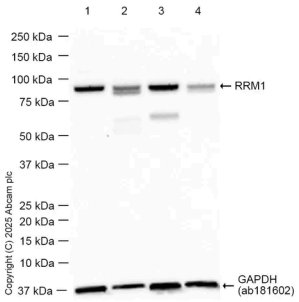
Flow Cytometry (Intracellular) - Anti-RRM1 antibody [EPR8483] - BSA and Azide free (ab232382)

RRM1 Flow Cytometry (Intracellular) staining using rabbit Anti-RRM1 antibody

ab137114 staining RRM1 in the human cell line HeLa (human cervix adenocarcinoma) by intracellular flow cytometry. Cells were fixed with 4% paraformaldehyde, permiabilised with 90% methanol and the sample was incubated with the primary antibody at a dilution of 1/80. A goat anti rabbit IgG (Alexa Fluor® 488) at a dilution of 1/2000 was used as the secondary antibody. Isotype control: Rabbit monoclonal IgG (Black)

Unlabelled control: Cell without incubation with primary antibody and secondary antibody (Blue)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab137114).



Western blot - Anti-RRM1 antibody [EPR8483] - BSA and Azide free (ab232382)

RRM1 Western blot staining using rabbit Anti-RRM1 antibody

This data was developed using ab137114, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/1000,000 dilution.

All lanes:
Western blot - Anti-RRM1 antibody [EPR8483] (ab137114) at 1/10000 dilution

Lane 1:
MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
A549 (human lung carcinoma epithelial cell) whole cell lysate, at 20 µg

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

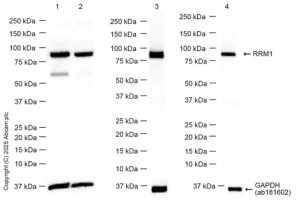
Lane 4:
Rat colon tissue lysate at 20 µg

Secondary

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

Observed band size: 90 kDa, 36 kDa

Exposure time: 10s



Western blot - Anti-RRM1 antibody [EPR8483] - BSA and Azide free (ab232382)

RRM1 Western blot staining using rabbit Anti-RRM1 antibody

This data was developed using ab137114, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/1000,000 dilution.

All lanes:
Western blot - Anti-RRM1 antibody [EPR8483] (ab137114) at 1/10000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:

HEK-293 (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Lane 3:
Freshly made HeLa whole cell lysate at 20 µg

Lane 4:
Freshly made HEK-293 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: 90 kDa, 36 kDa

Exposure time: 10s

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