abcam

ab240093

Anti-RRM1 antibody [SP167] - 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	SP167
Purification technique	Affinity purification Protein A/G
Purification notes	Purified from TCS by protein A/G.

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Cow
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Cow
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Cow
Dilution info	-
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

ab240093 is the carrier-free version of ab135383.
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

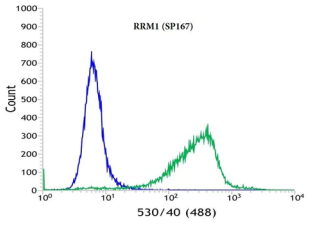
We do not recommend this combination. It is not covered by our product promise.

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.

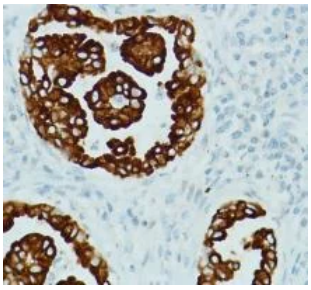
3 product images



Flow Cytometry (Intracellular) - Anti-RRM1 antibody [SP167] - BSA and Azide free (ab240093)

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

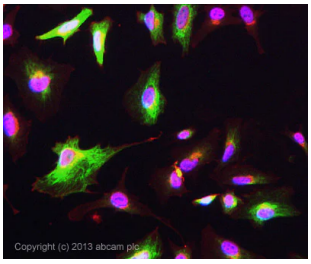
Intracellular flow cytometric analysis of rabbit anti-RRM1 (SP167) antibody ab135383 (1/400) in HeLa cells (green) compared to negative control of rabbit IgG (blue).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab135383).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RRM1 antibody [SP167] - BSA and Azide free (ab240093)

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

Immunohistochemical analysis of paraffin embedded human lung adenocarcinoma tissue labeling RRM1 with ab135383 antibody at a dilution of 1/100.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab135383).



Immunocytochemistry/ Immunofluorescence - Anti-RRM1 antibody [SP167] - BSA and Azide free (ab240093)

RRM1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RRM1 antibody

ICC/IF image of ab135383 stained HeLa cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab135383 at 1/100 dilution overnight at +4°C. The secondary antibody (green) was DyLight® 488 goat anti- rabbit (ab96899) IgG (H+L) used at a 1/250 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab135383).

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