abcam

ab248477

Anti-MCM2 antibody [EPR3727] - 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	EPR3727
Purification technique	Affinity purification Protein A
Concentration	1.013 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-

Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information MCM2

Function	Acts as a component of the MCM2-7 complex (MCM complex) which is the replicative helicase essential for 'once per cell cycle' DNA replication initiation and elongation in eukaryotic cells. Core component of CDC45-MCM-GINS (CMG) helicase, the molecular machine that unwinds template DNA during replication, and around which the replisome is built (PubMed:32453425, PubMed:34694004, PubMed:34700328, PubMed:35585232). The active ATPase sites in the MCM2-7 ring are formed through the interaction surfaces of two neighboring subunits such that a critical structure of a conserved arginine finger motif is provided in trans relative to the ATP-binding site of the Walker A box of the adjacent subunit. The six ATPase active sites, however, are likely to contribute differentially to the complex helicase activity (PubMed:32453425). Required for the entry in S phase and for cell division (PubMed:8175912). Plays a role in terminally differentiated hair cells development of the cochlea and induces cells apoptosis (PubMed:26196677).

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

ab248477 is the carrier-free version of ab133325.

Species reactivity

Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	MCM2 or Minichromosome Maintenance Complex Component 2 is a protein involved in the initiation of DNA replication. It plays a central role in the formation of the pre-replication complex which is necessary for DNA unwinding and replication fork progression. The molecular weight of MCM2 is approximately 100 kDa. It is expressed ubiquitously in proliferating cells as its function is necessary for DNA replication. Researchers often use terms like MCM-2 MC M2 or PMC M2 when discussing varying aspects of its function and interaction with other proteins in scientific literature.
Biological function summary	MCM2 is part of the heterohexameric MCM complex including other proteins like MCM3 to MCM7. This complex serves as a helicase unwinding DNA to allow replication machinery access to the template strand. The activity of the MCM complex is tightly regulated to ensure that every section of genomic DNA is replicated once per cell cycle. Its proper function ensures genetic information replication accuracy and contributes to genome stability.
Pathways	MCM2 participates in essential biological processes such as the DNA replication pathway and the cell cycle regulatory pathway. The presence of MCM2 is critical for the G1/S transition phase of the cell cycle. It interacts with other proteins including CDC45 and GINS forming the active CMG helicase complex. This complex is pivotal in orchestrating the replication machinery and signaling pathway responses to ensure appropriate replication origin firing and accurate DNA synthesis.
Associated diseases and disorders	MCM2 is often associated with cancer and some types of genomic instability disorders. Its overexpression can lead to uncontrolled cell proliferation a hallmark of cancer. MCM2 expression levels can be a marker in distinguishing certain tumors acting as a potential therapeutic target. The protein's interaction with components like cyclin-dependent kinases (CDKs) can influence pathways leading to malignant transformation and suggests its involvement in tumorigenesis and potential as a target for anticuerpos or antibodies in disease treatment.

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

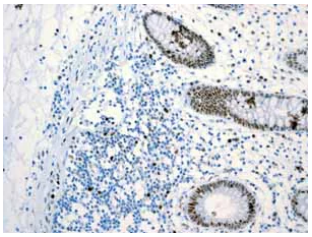
We do not recommend this combination. It is not covered by our product promise.

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

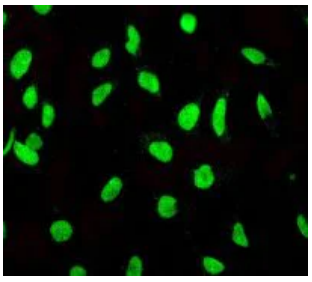


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [EPR3727] - BSA and Azide free (ab248477)

MCM2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCM2 antibody

This data was developed using ab133325, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin embedded normal Human colon tissue using ab133325 showing +ve staining.

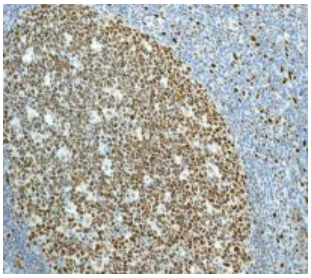
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-MCM2 antibody [EPR3727] - BSA and Azide free (ab248477)

MCM2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MCM2 antibody

This data was developed using ab133325, the same antibody clone in a different buffer formulation.Immunofluorescent analysis of HeLa cells labelling MCM2 with ab133325 at 1/100 dilution.

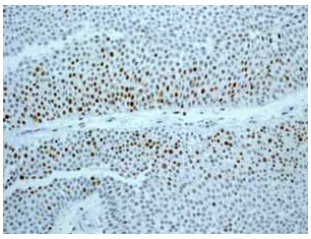


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [EPR3727] - BSA and Azide free (ab248477)

MCM2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCM2 antibody

This data was developed using ab133325, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labelling MCM2 with ab133325 at 1/100 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

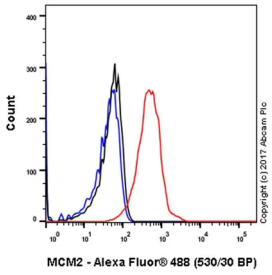


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [EPR3727] - BSA and Azide free (ab248477)

MCM2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCM2 antibody

This data was developed using ab133325, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin embedded Human Urinary bladder transitional carcinoma tissue using ab133325 showing +ve staining.

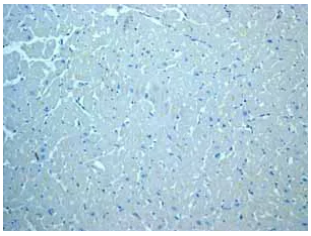
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-MCM2 antibody [EPR3727] - BSA and Azide free (ab248477)

MCM2 Flow Cytometry (Intracellular) staining using rabbit Anti-MCM2 antibody

This data was developed using ab133325, the same antibody clone in a different buffer formulation.
Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling MCM2 with unpurified ab133325 at 1/200 dilution (10ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.

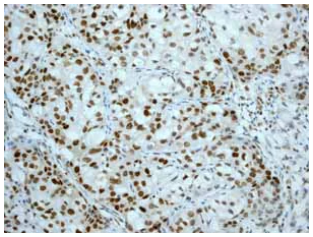


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [EPR3727] - BSA and Azide free (ab248477)

MCM2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCM2 antibody

This data was developed using ab133325, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin embedded normal Human heart tissue using ab133325 showing -ve staining.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

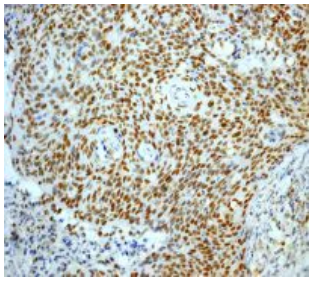


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [EPR3727] - BSA and Azide free (ab248477)

MCM2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCM2 antibody

This data was developed using ab133325, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin embedded Human Breast carcinoma tissue using ab133325 showing +ve staining.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

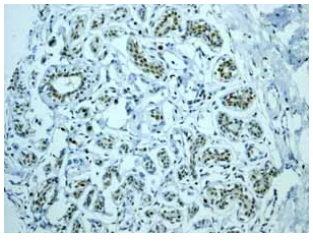


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [EPR3727] - BSA and Azide free (ab248477)

MCM2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCM2 antibody

This data was developed using ab133325, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human cervical carcinoma tissue labelling MCM2 with ab133325 at 1/100 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

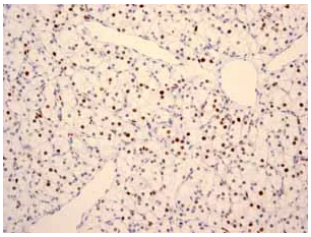


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [EPR3727] - BSA and Azide free (ab248477)

MCM2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCM2 antibody

This data was developed using ab133325, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin embedded normal Human breast tissue using ab133325 showing +ve staining.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

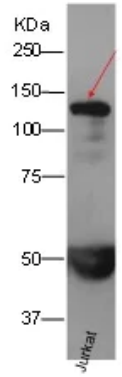


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [EPR3727] - BSA and Azide free (ab248477)

MCM2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCM2 antibody

This data was developed using ab133325, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin embedded Human Clear cell carcinoma of kidney tissue using ab133325 showing +ve staining.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



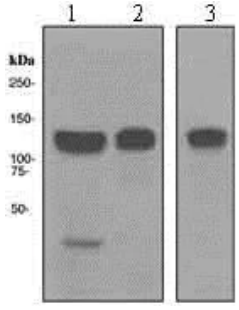
Immunoprecipitation - Anti-MCM2 antibody [EPR3727] - BSA and Azide free (ab248477)

This data was developed using ab133325, the same antibody clone in a different buffer formulation.
MCM2 was immunoprecipitated from Jurkat (Human T cell leukemia cell line from peripheral blood) with ab133325 at 1/60 dilution.

Exposue time:10 second.

All lanes:
Immunoprecipitation - Anti-MCM2 antibody [EPR3727] (ab133325)

Predicted band size: 102 kDa



Western blot - Anti-MCM2 antibody [EPR3727] - BSA and Azide free (ab248477)

MCM2 Western blot staining using rabbit Anti-MCM2 antibody

This data was developed using ab133325, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-MCM2 antibody [EPR3727] (ab133325) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
Jurkat cell lysate at 10 µg

Lane 3:
MCF-7 cell lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 102 kDa

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