abcam

ab201683

Anti-MCM6 antibody [EPR17686]

Recombinant | RabMAb | 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	EPR17686
Purification technique	Affinity purification Protein A
Concentration	0.701 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/40
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/130
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target data

See full target information MCM6

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:16899510, PubMed:32453425, PubMed:34694004, PubMed:34700328, PubMed:35585232, PubMed:9305914). 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).

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	The target known as MCM6 or Minichromosome Maintenance Complex Component 6 is a part of a group of proteins providing essential functions during DNA replication initiation. MCM6 is a part of the hexameric MCM2-7 complex which operates as a helicase that unwinds DNA to facilitate fork progression. This protein has an approximate molecular weight of 92 kDa. MCM6 expresses in dividing cells across different tissues particularly in cells with high proliferative rates like those in the bone marrow and gastrointestinal tract.
Biological function summary	The functions of MCM6 contribute to the precise control of DNA replication and overall cell cycle regulation. The protein forms a part of the MCM2-7 complex playing a significant role in the S phase to ensure DNA replication occurs at the right time. Additionally the MCM complex acts as a primary licensing factor for replication origins preventing re-replication. MCM6 also interacts with other proteins like CDC45 and GINS to form the CMG complex a critical component for replication fork stability and duplication.
Pathways	MCM6 contributes significantly within the DNA replication and cell cycle pathways. As a component of the MCM2-7 complex it supports the unwinding of DNA which is a prerequisite for replication to initiate. MCM6 is related to proteins like CDC6 and ORC which are integral to the assembly of the pre-replication complex facilitating the initiation of DNA synthesis. This integration into core cellular mechanisms highlights its importance in genomic stability.
Associated diseases and disorders	Mutations or deregulation of MCM6 have links to cancerous growths and genomic instability disorders. The aberrant expression of MCM6 is often observed in cancers such as colorectal and breast cancer where it contributes to unchecked cellular proliferation. MCM6 correlates with oncogenic proteins like MYC which can amplify abnormal cell cycle progression. Understanding the mechanistic contributions of MCM6 in these conditions assists in developing therapeutic strategies targeting these pathways.

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

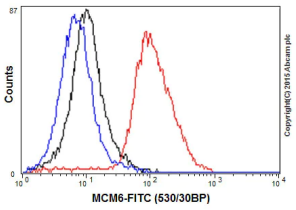
We do not recommend this combination. It is not covered by our product promise.

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.

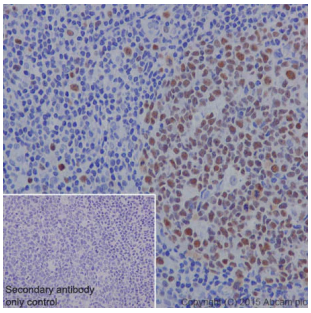
10 product images



Flow Cytometry (Intracellular) - Anti-MCM6 antibody [EPR17686] (ab201683)

MCM6 Flow Cytometry (Intracellular) staining using rabbit Anti-MCM6 antibody

Intracellular flow cytometric analysis of HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling MCM6 with ab201683 at 1/130 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730;black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/150 dilution was used as the secondary antibody.

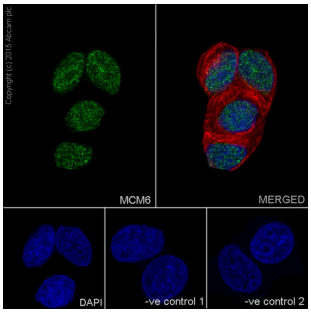


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM6 antibody [EPR17686] (ab201683)

MCM6 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCM6 antibody

Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labeling MCM6 with ab201683 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution. Nuclear staining on Human tonsil tissue is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

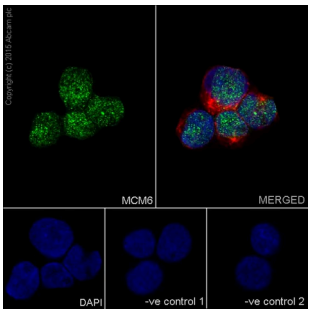


Immunocytochemistry/ Immunofluorescence - Anti-MCM6 antibody [EPR17686] (ab201683)

MCM6 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MCM6 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized MCF7 (Human breast adenocarcinoma cell line) cells labeling MCM6 with ab201683 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). Confocal image showing nuclear staining on MCF7 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).
The negative controls are as follows:
-ve control 1: ab201683 at 1/500 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.

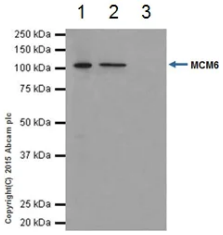
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-MCM6 antibody [EPR17686] (ab201683)

MCM6 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MCM6 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Jurkat (Human T cell leukemia cells from peripheral blood) cells labeling MCM6 with ab201683 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). Confocal image showing nuclear staining on Jurkat cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).
The negative controls are as follows:
-ve control 1: ab201683 at 1/500 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.



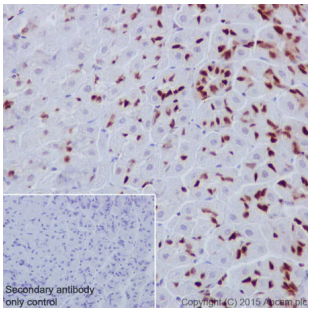
Immunoprecipitation - Anti-MCM6 antibody [EPR17686] (ab201683)

MCM6 was immunoprecipitated from 1mg of HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysate with ab201683 at 1/40 dilution. Western blot was performed from the immunoprecipitate using ab201683 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used for detection at 1/1500 dilution.
Lane 1: HeLa whole cell lysate 10 µg (Input). Lane 2: ab201683 IP in HeLa whole cell lysate. Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab201683 in HeLa whole cell lysate.
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 30 seconds.

All lanes:
Immunoprecipitation - Anti-MCM6 antibody [EPR17686] (ab201683)

Predicted band size: 93 kDa

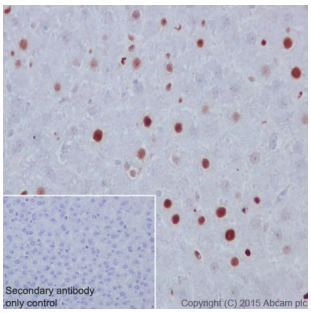


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM6 antibody [EPR17686] (ab201683)

MCM6 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCM6 antibody

Immunohistochemical analysis of paraffin-embedded mouse stomach tissue labeling MCM6 with ab201683 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution. Nuclear staining on mouse stomach tissue is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

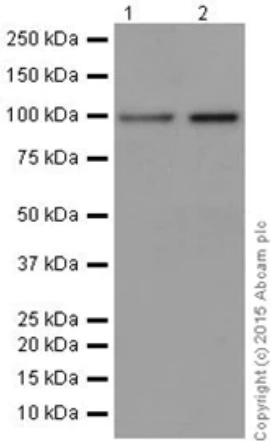


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM6 antibody [EPR17686] (ab201683)

MCM6 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCM6 antibody

Immunohistochemical analysis of paraffin-embedded rat liver tissue labeling MCM6 with ab201683 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution. Nuclear staining on rat liver tissue is observed. Counter stained with Hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-MCM6 antibody [EPR17686] (ab201683)

MCM6 Western blot staining using rabbit Anti-MCM6 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-MCM6 antibody [EPR17686] (ab201683) at 1/1000 dilution

Lane 1:
Human heart lysate at 10 µg

Lane 2:
Human kidney lysate at 10 µg

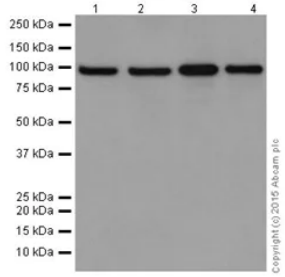
Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 93 kDa

Observed band size: 93 kDa

Exposure time: 3min



Western blot - Anti-MCM6 antibody [EPR17686] (ab201683)

MCM6 Western blot staining using rabbit Anti-MCM6 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-MCM6 antibody [EPR17686] (ab201683) at 1/1000 dilution

Lane 1:
MCF7 (Human breast adenocarcinoma cell line) whole cell lysate at 20 µg

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

Lane 3:
Jurkat (Human T cell leukemia cells from peripheral blood) whole cell lysate at 20 µg

Lane 4:
Human tonsil lysate at 20 µg

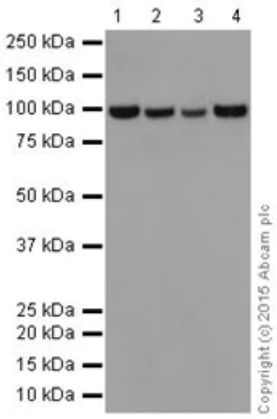
Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 93 kDa

Observed band size: 93 kDa

Exposure time: 3min



Western blot - Anti-MCM6 antibody [EPR17686] (ab201683)

MCM6 Western blot staining using rabbit Anti-MCM6 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-MCM6 antibody [EPR17686] (ab201683) at 1/1000 dilution

Lane 1:
C6 (Rat glial tumor cells) whole cell lysate at 10 µg

Lane 2:
RAW 264.7 (Mouse macrophage cells transformed with Abelson murine leukemia virus) whole cell lysate at 10 µg

Lane 3:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysate at 10 µg

Lane 4:
NIH/3T3 (Mouse embyro fibroblast cells) whole cell lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 93 kDa

Observed band size: 93 kDa

Exposure time: 1min

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