abcam

ab240933

Anti-MCM2 antibody [SP85] - 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	SP85
Purification technique	Affinity purification Protein A/G
Concentration	1.059 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS by protein A/G.

Reactivity data

WB

Expected

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

Notes	-

Predicted

Species	Cow, Dog
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	Antigen retrieval is recommended by the following method: boil tissue section in 1mM EDTA, pH 8.0 for 10 min followed by cooling at RT for 20 min.

Species	Mouse
Dilution info	-
Notes	-

Species	Rat
Dilution info	-
Notes	-

Predicted

Species	Cow, Dog
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Rat
Dilution info	-

Notes	-

Expected

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

Predicted

Species	Cow, Dog
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

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

Expected

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

Predicted

Species	Cow, Dog
Dilution info	-
Notes	-

IP

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Predicted

Species	Cow, Dog
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

ab240933 is the carrier-free version of ab95361.
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

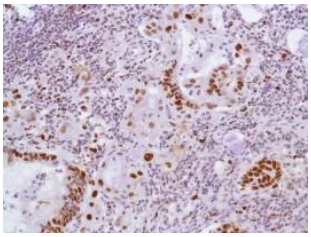
We do not recommend this combination. It is not covered by our product promise.

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.

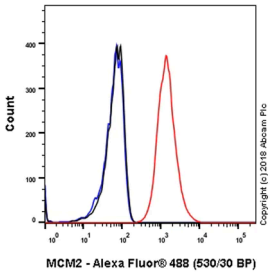
15 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

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

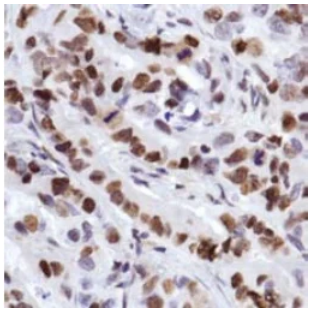
ab95361,at 1/100 dilution,staining MCM2 in formalin-fixed,paraffin-embedded Human pancreas adenocarcinoma tissue by Immunohistochemistry.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab95361).



Flow Cytometry (Intracellular) - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

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

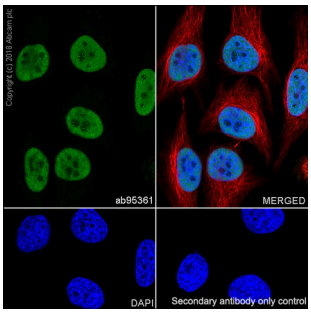
Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma epithelial cell) labeling MCM2 with purified ab95361 at 1/200 dilution (0.615µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as a secondary antibody. Isotype control - Rabbit monoclonal IgG (ab172730) (black). Unlableled control - Unlabelled cells (blue).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab95361).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

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

ab95361, at 1/100 dilution, staining MCM2 in formalin-fixed, paraffin-embedded Human rectal carcinoma tissue by Immunohistochemistry.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab95361).

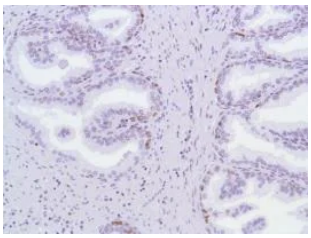


Immunocytochemistry/ Immunofluorescence - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

MCM2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MCM2 antibody

Immunocytochemistry/ Immunofluorescence analysis of HeLa (human cervix adenocarcinoma epithelial cell) cells labeling MCM2 with purified ab95361 at 1/50 (2.5 µg/ml). Cells were fixed in 4% paraformaldehyde and permeabilized with 0.1% Triton X-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 was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.

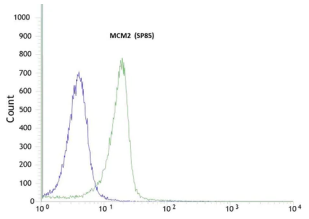
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab95361).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

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

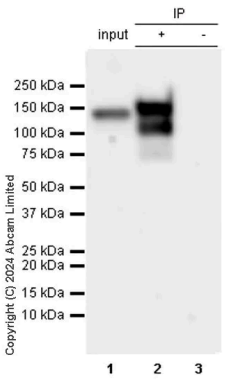
ab95361,at 1/100 dilution,staining MCM2 in formalin-fixed,paraffin-embedded Human prostate tissue by Immunohistochemistry.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab95361).



Flow Cytometry (Intracellular) - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

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

Intracellular flow cytometric analysisusing rabbit anti-MCM2 (SP85) antibody ab95361 (1/100)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 and sodium azide (ab95361).



Immunoprecipitation - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab95361).
MCM2 was immunoprecipitated from 0.35 mg Hela (human cervical adenocarcinoma epithelial cell) whole cell lysate with ab95361 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab95361 at 1/1000 dilution.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-MCM2 antibody [SP85] (ab95361) at 1/1000 dilution

Lane 1:
Hela (human cervical adenocarcinoma epithelial cell) whole cell lysate (Input) at 10 µg

Lane 2:
Hela (human cervical adenocarcinoma epithelial cell) whole cell lysate (+)

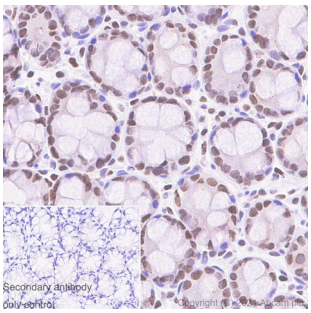
Lane 3:
Rabbit monoclonal IgG (ab172730) instead of ab95361 in Hela whole cell lysate (-)

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Observed band size: 130 kDa

Exposure time: 37s



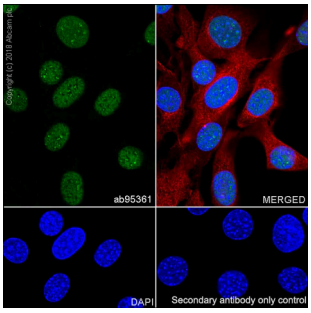
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab95361).
Immunohistochemical analysis of paraffin-embedded Mouse colon tissue labeling MCM2 with ab95361 at 1/100 (0.06 µg/ml) dilution, followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Nuclear staining on mouse colon. The section was incubated with ab95361 for 10 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument
Counterstained with hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

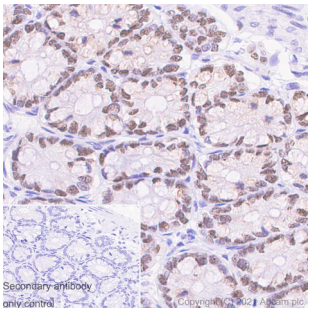
Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 10 mins



Immunocytochemistry/ Immunofluorescence - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

MCM2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MCM2 antibody

Immunocytochemistry/ Immunofluorescence analysis of NIH/3T3 (mouse embryonic fibroblast) cells labeling MCM2 with purified ab95361 at 1/50 (2.5 µg/ml). Cells were fixed in 4% paraformaldehyde and permeabilized with 0.1% Triton X-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 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 and sodium azide (ab95361).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

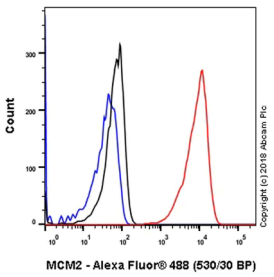
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab95361).
Immunohistochemical analysis of paraffin-embedded Rat colon tissue labeling MCM2 with ab95361 at 1/100 (0.06 µg/ml) dilution, followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Nuclear staining on rat colon. The section was incubated with ab95361 for 10 mins at room temperature.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

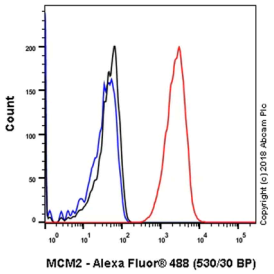
Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 10 mins



Flow Cytometry (Intracellular) - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

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

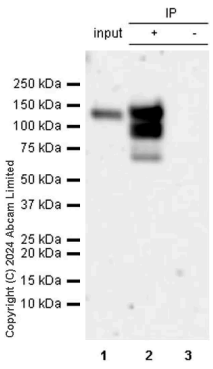
Intracellular Flow Cytometry analysis of C6 (rat glial tumor glial cell) labeling MCM2 with purified ab95361 at 1/200 dilution (0.615µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Goat anti rabbit IgG (Alexa Fluor®488, ab150077) at 1/2000 dilution was used as a secondary antibody. Isotype control - Rabbit monoclonal IgG (ab172730) (black). Unlableled control - Unlabelled cells (blue).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab95361).



Flow Cytometry (Intracellular) - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

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

Intracellular Flow Cytometry analysis of NIH/3T3 (mouse embryonic fibroblast) labeling MCM2 with purified ab95361 at 1/200 dilution (0.615µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Goat anti rabbit IgG (Alexa Fluor®488, ab150077) at 1/2000 dilution was used as a secondary antibody. Isotype control - Rabbit monoclonal IgG (ab172730) (black). Unlableled control - Unlabelled cells (blue).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab95361).



Immunoprecipitation - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab95361).
MCM2 was immunoprecipitated from 0.35 mg NIH/3T3 (mouse embryonic fibroblast) whole cell lysate with ab95361 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab95361 at 1/1000 dilution.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-MCM2 antibody [SP85] (ab95361) at 1/1000 dilution

Lane 1:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate (Input) at 10 µg

Lane 2:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate (+)

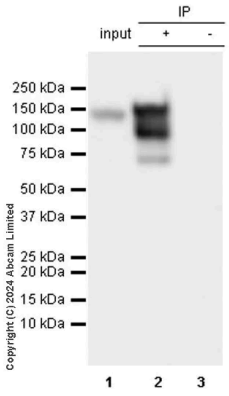
Lane 3:
Rabbit monoclonal IgG (ab172730) instead of ab95361 in NIH/3T3 whole cell lysate (-)

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Observed band size: 130 kDa

Exposure time: 103s



Immunoprecipitation - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab95361).
MCM2 was immunoprecipitated from 0.35 mg C6 (rat glial tumor glial cell) whole cell lysate with ab95361 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab95361 at 1/1000 dilution.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-MCM2 antibody [SP85] (ab95361) at 1/1000 dilution

Lane 1:
C6 (rat glial tumor glial cell) whole cell lysate (Input) at 10 µg

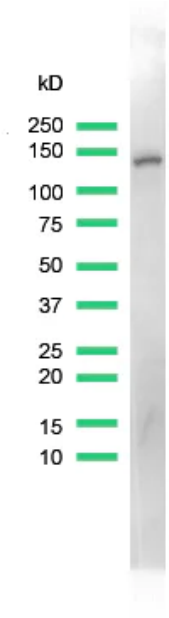
Lane 2:
C6 (rat glial tumor glial cell) whole cell lysate (+)

Lane 3:
Rabbit monoclonal IgG (ab172730) instead of ab95361 in C6 whole cell lysate (-)

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Observed band size: 130 kDa



Western blot - Anti-MCM2 antibody [SP85] - BSA and Azide free (ab240933)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab95361).
All lanes:
Western blot - Anti-MCM2 antibody [SP85] (ab95361) at 1/100 dilution

All lanes:
lysate prepared from HeLa cells

Predicted band size: 102 kDa

Observed band size: 130 kDa

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