abcam

ab95361

# Anti-MCM2 antibody [SP85]

Recombinant | RabMAb | 20ul selling size

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Storage buffer** | pH: 7.6 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Clone number** | SP85 |
| **Purification technique** | Affinity purification Protein A/G |
| **Concentration** | 0.005 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |
| **Purification notes** | Purified from TCS by protein A/G. |

## Reactivity data

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/200 |

| | |
|---|---|
| **Notes** | ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/200 |
| **Notes** | ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/200 |
| **Notes** | ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. |

### Predicted

| | |
|---|---|
| **Species** | Cow, Dog |
| **Dilution info** | - |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Expected

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

### Predicted

| | |
|---|---|
| **Species** | Cow, Dog |
| **Dilution info** | - |

| | |
|---|---|
| **Notes** | - |

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/100 |
| **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** | 1/100 |
| **Notes** | Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/100 |
| **Notes** | Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. |

### Predicted

| | |
|---|---|
| **Species** | Cow, Dog |
| **Dilution info** | - |
| **Notes** | - |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/50 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/50 |

| | |
|---|---|
| **Notes** | - |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/50 |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Cow, Dog |
| **Dilution info** | - |
| **Notes** | - |

## IP

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/30 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/30 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/30 |
| **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** | Conditional Ambient |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | +4°C |

## 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**

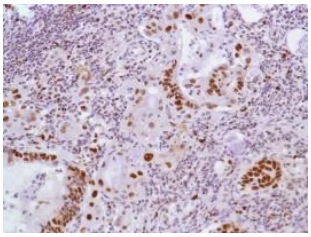
We do not recommend this combination. It is not covered by our product promise.

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.

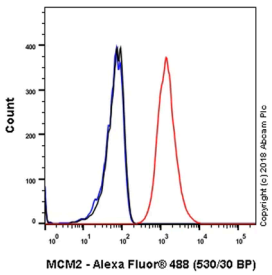
## 15 product images



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [SP85] (ab95361)

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

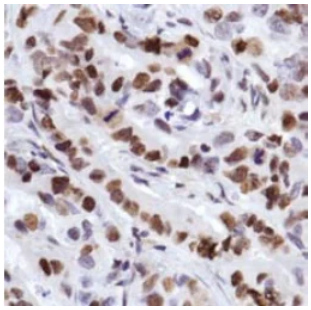
ab95361,at 1/100 dilution,staining MCM2 in formalin-fixed,paraffin-embedded Human pancreas adenocarcinoma tissue by Immunohistochemistry.




## Flow Cytometry (Intracellular) - Anti-MCM2 antibody [SP85] (ab95361)

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

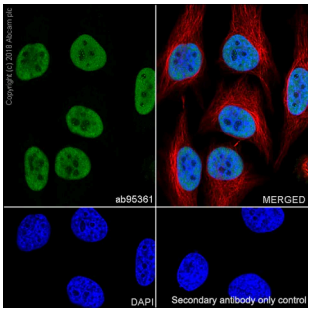
Flow cytometry analysis of HeLa (human cervix adenocarcinoma epithelial cell) labeling MCM2 with purified ab95361 at 1/200 dilution (0.615 µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as a secondary antibody. Isotype control - Rabbit monoclonal IgG (ab172730) (black). Unlableled control - Unlabelled cells (blue).



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [SP85] (ab95361)

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

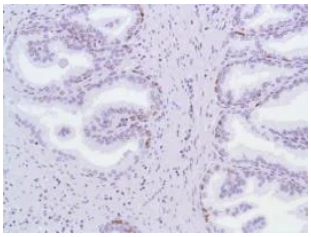
ab95361, at 1/100 dilution, staining MCM2 in formalin-fixed, paraffin-embedded Human rectal carcinoma tissue by Immunohistochemistry.




## Immunocytochemistry/ Immunofluorescence - Anti-MCM2 antibody [SP85] (ab95361)

MCM2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MCM2 antibody

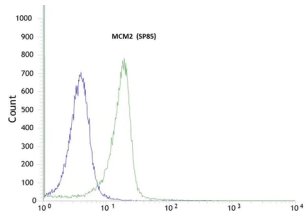
Immunocytochemistry/ Immunofluorescence analysis of HeLa (human cervix adenocarcinoma epithelial cell) cells labeling MCM2 with purified ab95361 at 1/50 (2.5 µg/ml). Cells were fixed in 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. Cells were counterstained with ab195889 Anti-alpha Tubulin 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.



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [SP85] (ab95361)

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

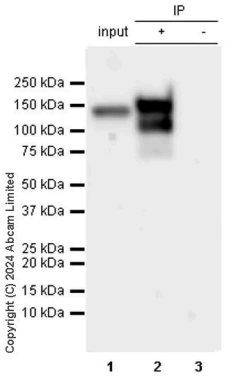
ab95361,at 1/100 dilution,staining MCM2 in formalin-fixed,paraffin-embedded Human prostate tissue by Immunohistochemistry.




## Flow Cytometry (Intracellular) - Anti-MCM2 antibody [SP85] (ab95361)

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

Flow cytometric analysis using rabbit anti-MCM2 (SP85) antibody ab95361(1/100) in HeLa cells (green) compared to negative control of rabbit IgG (blue).




## Immunoprecipitation - Anti-MCM2 antibody [SP85] (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 (+)

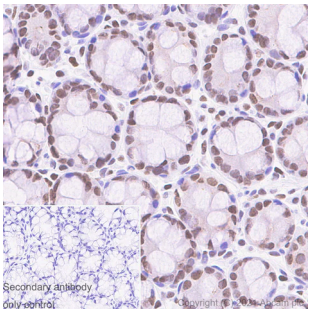
Lane 3:
Rabbit monoclonal IgG (ab172730) instead of ab95361 in Hela whole cell lysate (-)

Secondary

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

Observed band size: 130 kDa

Exposure time: 37s



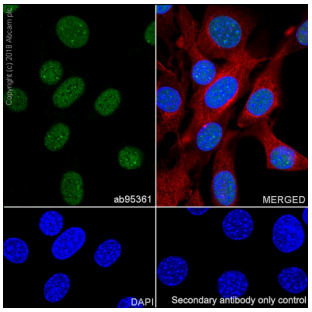
## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [SP85] (ab95361)

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).

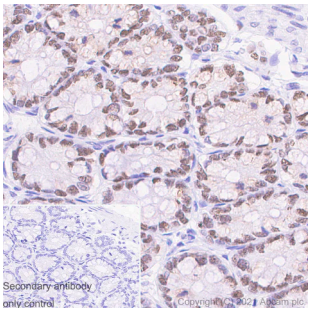
Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 10 mins




## Immunocytochemistry/ Immunofluorescence - Anti-MCM2 antibody [SP85] (ab95361)

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.



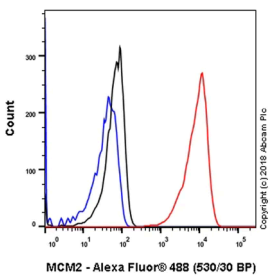

## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCM2 antibody [SP85] (ab95361)

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).

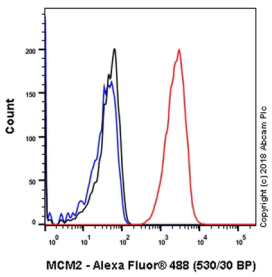
Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 10 mins




## Flow Cytometry (Intracellular) - Anti-MCM2 antibody [SP85] (ab95361)

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

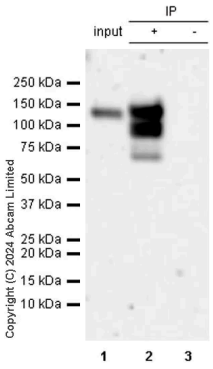
Flow cytometry analysis of C6 (rat glial tumor glial cell) labeling MCM2 with purified ab95361 at 1/200 dilution (0.615 µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as a secondary antibody. Isotype control - Rabbit monoclonal IgG (ab172730) (black). Unlableled control - Unlabelled cells (blue).




## Flow Cytometry (Intracellular) - Anti-MCM2 antibody [SP85] (ab95361)

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

Flow cytometry analysis of NIH/3T3 (mouse embryonic fibroblast) labeling MCM2 with purified ab95361 at 1/200 dilution (0.615 µg/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). Unlabeled control - Unlabelled cells (blue).




## Immunoprecipitation - Anti-MCM2 antibody [SP85] (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 (+)

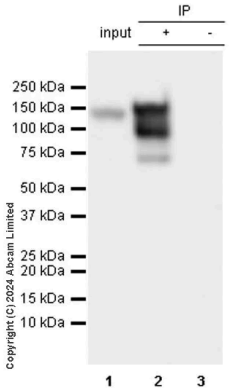
Lane 3:
Rabbit monoclonal IgG (ab172730) instead of ab95361 in NIH/3T3 whole cell lysate (-)

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] (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 (+)

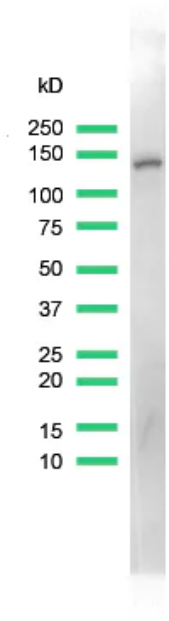
Lane 3:

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] (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

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