abcam

# ab109133

# Anti-MCM2 (phospho S53) antibody [EP4120]

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** | EP4120 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.24 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/2400 |
| **Notes** | Perform heat-mediated antigen retrieval before commencing with IHC staining protocol. |

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/2400 |
| **Notes** | Perform heat-mediated antigen retrieval before commencing with IHC staining protocol. |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/2400 |
| **Notes** | Perform heat-mediated antigen retrieval before commencing with IHC staining protocol. |

## IP

### Not recommended

| | |
|---|---|
| **Species** | Human, Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt

### Not recommended

| | |
|---|---|
| **Species** | Human, Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/1000 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/1000 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/1000 |
| **Notes** | - |

## ICC/IF

### Tested

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

### Expected

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

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/20 |
| **Notes** | - |

### Expected

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

# Target data

See full target information MCM2 pS53

| | |
|---|---|
| **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** | -20°C |
| **Storage information** | Stable for 12 months at -20°C |

## 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** | 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.

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