10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-MCM2 (RABBIT) Antibody
MCM2 Antibody
Catalog # ASR5345

Specification

Anti-MCM2 (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**This affinity purified antibody has been tested for use in ELISA and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 100 kDa in size corresponding to phosphorylated or unphosphorylated MCM2 proteins by western blotting in the appropriate cell lysate or extract.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an N-Terminal region near amino acids 15-40 of human MCM2 protein.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-MCM2 (RABBIT) Antibody - Additional Information

Gene ID 4171

Other Names
4171

Purity
This affinity-purified antibody is directed against human MCM2 protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. Approximately equivalent reactivity occurs against both unphosphorylated and phosphorylated forms of human MCM2 (phosphorylated at residues pS26 and pS27). A BLAST analysis was used to suggest cross reactivity with MCM2 proteins from human, mouse, rat and S. cerevisiae based on 100% homology with the immunizing sequence. Reactivity against homologues from other sources is not known.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after

standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-MCM2 (RABBIT) Antibody - Protein Information

Name MCM2 (HGNC:6944)

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).

Cellular Location
Nucleus. Chromosome. Note=Associated with chromatin before the formation of nuclei and detaches from it as DNA replication progresses. {ECO:0000250|UniProtKB:P55861}

Anti-MCM2 (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-MCM2 (RABBIT) Antibody - Images

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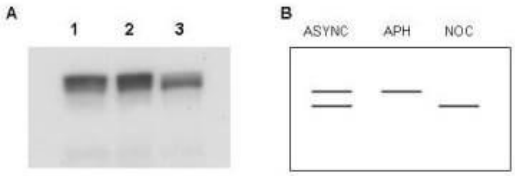

Western blot using Rockland's Affinity Purified anti-MCM2 antibody shows detection of both phosphorylated and unphosphorylated MCM2 present in nuclear extracts from elutriated human cells (MO59K/K562). The MCM2 protein is phosphorylated after initiation of DNA replication, therefore, the protein is unphosphorylated in early S phase, and gradually becomes phosphorylated throughout S phase. In G2/M, all MCM2 is phosphorylated. Panel A shows western blot results for lysates were prepared from asynchronous cells (lane 1), cells arrested in early S with aphidicolin (lane2), and cells arrested in mitosis with nocodazole (lane 3). Panel B shows a schematic diagram of bands representing phosphorylated and unphosphorylated MCM2 present in these preparations. Asynchronous cells contain a doublet of both forms. Aphidicolin treated cells contain only unphosphorylated MCM2 and nocodazole treatment results in only phosphorylated MCM2 detected in the lysate. The phosphorylated band migrates faster than the unphosphorylated form and is seen as the lower band. There is a clear switch from the unphosphorylated form in the center lane, to the phosphorylated form in the third lane, confirming recognition of both forms of MCM2 by this antibody. The primary antibody was diluted 1:400 for this experiment. Personal Communication, Jennifer Seiler, NIH, CCR, Bethesda, MD.

Anti-MCM2 (RABBIT) Antibody - Background

This antibody is designed, produced, and validated as part of a collaboration between Rockland and the National Cancer Institute (NCI) and is suitable for Cancer, Immunology and Nuclear Signaling research. MCM2, also called DNA replication licensing factor MCM2, Minichromosome maintenance protein 2 homolog or Nuclear Protein BM28) is one of the highly conserved mini-chromosome maintenance proteins (MCM) that are involved in the initiation of eukaryotic genome replication. The hexameric protein complex formed by MCM proteins is a key component of the pre-replication complex (pre-RC) and may be involved in the formation of replication forks and in the recruitment of other DNA replication related proteins. This protein forms a complex with MCM4, 6, and 7, and has been shown to regulate the helicase activity of the complex. This protein is phosphorylated, and thus regulated by protein kinases CDC2 and CDC7. Double serines at positions 26 and 27 are conserved in rat and mouse. High homology >88% to similar proteins from several other species. Expected broad reactivity to various lysates.