10320 Camino Santa Fe, Suite G
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MCM2 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1639a

Specification

MCM2 Antibody - Product Information

Application	**WB, IHC, FC, ICC, E**
Primary Accession	P49736
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**125kDa KDa**

Description
The protein encoded by this gene 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.

Immunogen
Purified recombinant fragment of human MCM2 expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

MCM2 Antibody - Additional Information

Gene ID 4171

Other Names
DNA replication licensing factor MCM2, 3.6.4.12, Minichromosome maintenance protein 2 homolog, Nuclear protein BM28, MCM2, BM28, CCNL1, CDCL1, KIAA0030

Dilution
WB~~1/500 - 1/2000
IHC~~1/200 - 1/1000
FC~~1/200 - 1/400
ICC~~N/A
E~~1/10000

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
MCM2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

MCM2 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}

MCM2 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

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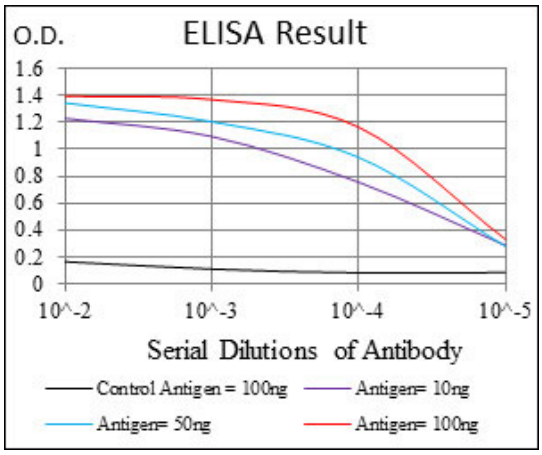

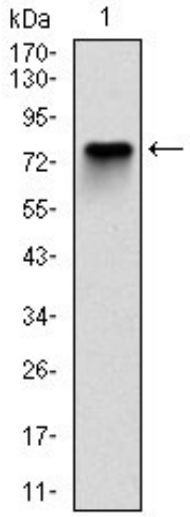

Figure 1: Western blot analysis using MCM2 mAb against human MCM2 (AA: 16-232) recombinant protein. (Expected MW is 50.4 kDa)

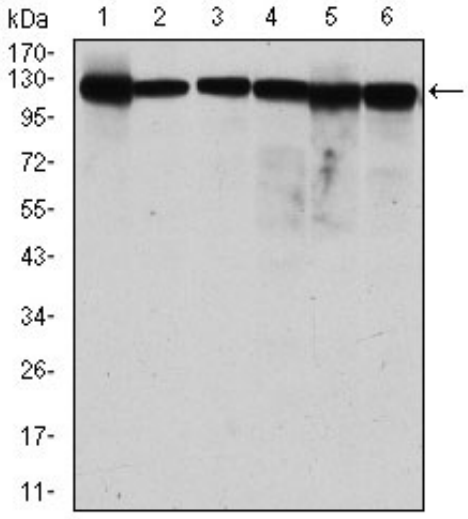

Figure 2: Western blot analysis using MCM2 mouse mAb against MCF-7 (1), Hela (2), Jurkat (3), K562 (4), HEK293 (5) and HEPG2 (6) cell lysate.

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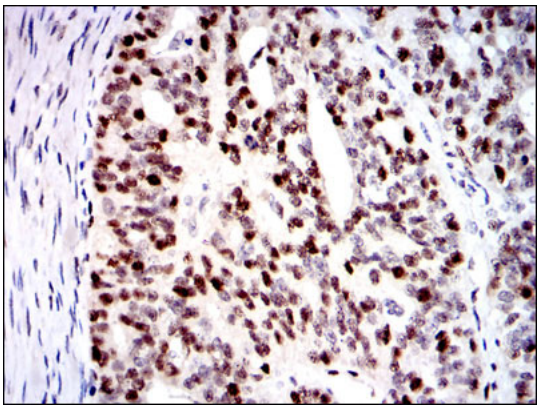

Figure 3: Immunohistochemical analysis of paraffin-embedded ovarian cancer tissues using MCM2 mouse mAb with DAB staining.

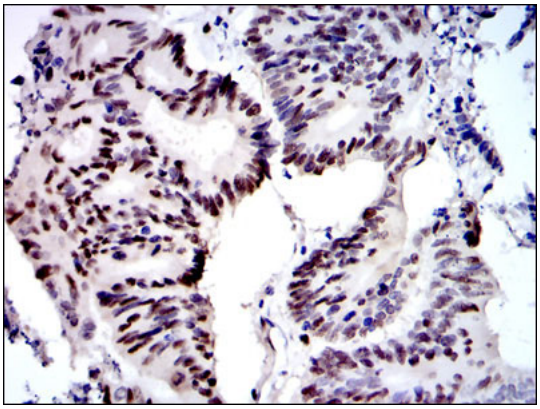

Figure 4: Immunohistochemical analysis of paraffin-embedded colon cancer tissues using MCM2 mouse mAb with DAB staining.

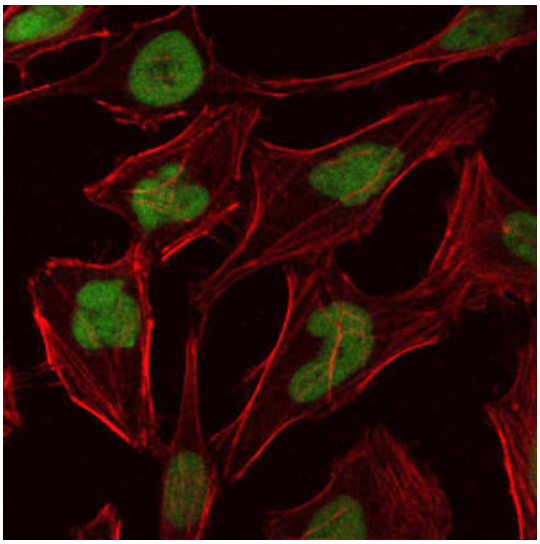

Figure 5: Immunofluorescence analysis of Hela cells using MCM2 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

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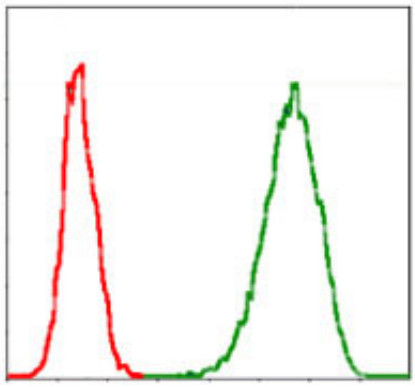

Figure 6: Flow cytometric analysis of Jurkat cells using MCM2 mouse mAb (green) and negative control (red).

MCM2 Antibody - References

1. Mol Cell. 2009 Jul 31;35(2):206-16. 2. J Cutan Pathol. 2009 Oct;36(10):1121-2.