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MCM2 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1639a

Product Information

Application	WB, IHC, FC, ICC, E
Primary Accession	P49736
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	1E7
Isotype	IgG1
Calculated MW	101896
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.

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.

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}

References

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

Images

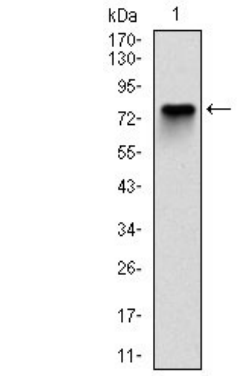

Figure 1: Western blot analysis using MCM2 mAb against human MCM2 (AA: 16-232) recombinant protein. (Expected MW is 50.4 kDa)

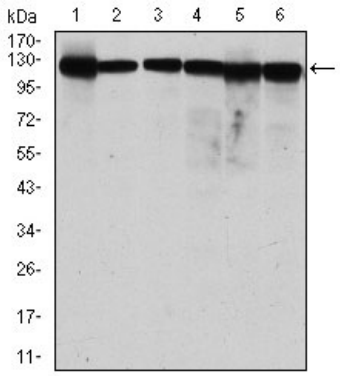

Figure 2: Western blot analysis using MCM2 mouse mAb against MCF-7 (1), Hela (2), Jurkat (3), K562 (4), HEK293 (5) and HEPG2 (6) cell lysate.

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

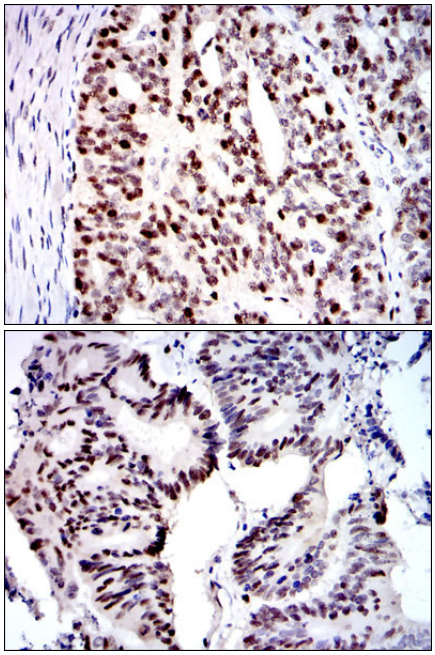

Figure 4: Immunohistochemical analysis of paraffin-embedded colon cancer tissues using MCM2 mouse mAb with DAB staining.

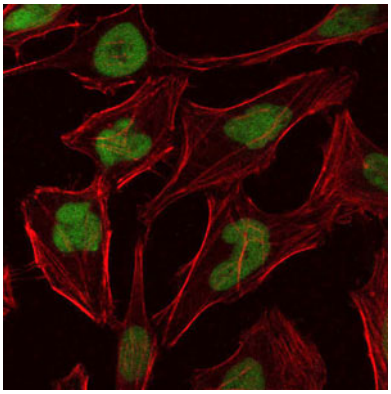

Figure 5: Immunofluorescence analysis of Hela cells using MCM2 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

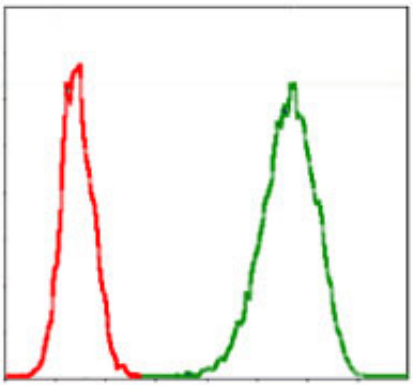

Figure 6: Flow cytometric analysis of Jurkat cells using MCM2 mouse mAb (green) and negative control (red).