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MCM7 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16322a

Product Information

Application	WB, E
Primary Accession	P33993
Other Accession	NP_877577.1, NP_005907.3
Reactivity	Human
Predicted	Rat, Bovine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB35742
Calculated MW	81308
Antigen Region	290-318

Additional Information

Gene ID	4176
Other Names	DNA replication licensing factor MCM7, CDC47 homolog, P11-MCM3, MCM7, CDC47, MCM2
Target/Specificity	This MCM7 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 290-318 amino acids from the N-terminal region of human MCM7.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MCM7 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MCM7 (HGNC:6950)
Synonyms	CDC47, 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:25661590, PubMed:32453425, PubMed:34694004, PubMed:34700328, PubMed:35585232, PubMed:9305914). 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 S-phase checkpoint activation upon UV-induced damage.
Cellular Location	Nucleus. Chromosome. Note=Associated with chromatin before the formation of nuclei and detaches from it as DNA replication progresses.

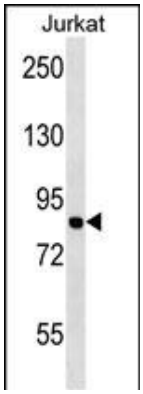
Background

The protein encoded by this gene is one of the highly conserved mini-chromosome maintenance proteins (MCM) that are essential for the initiation of eukaryotic genome replication. The hexameric protein complex formed by the 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. The MCM complex consisting of this protein and MCM2, 4 and 6 proteins possesses DNA helicase activity, and may act as a DNA unwinding enzyme. Cyclin D1-dependent kinase, CDK4, is found to associate with this protein, and may regulate the binding of this protein with the tumorsuppressor protein RB1/RB. Alternatively spliced transcript variants encoding distinct isoforms have been reported.

References

Lau, K.M., et al. Oncogene 29(40):5475-5489(2010)
Kim, D.W., et al. Mol. Biochem. Parasitol. 173(1):10-16(2010)
Olson, J.E., et al. Breast Cancer Res. Treat. (2010) In press :
Rojiani, M.V., et al. Appl. Immunohistochem. Mol. Morphol. 18(3):278-282(2010)
Poliseno, L., et al. Sci Signal 3 (117), RA29 (2010) :

Images



MCM7 Antibody (N-term) (Cat. #AP16322a) western blot analysis in Jurkat cell line lysates (35ug/lane).This demonstrates the MCM7 antibody detected the MCM7 protein (arrow).

Citations

- Jumonji Domain Containing 5 (JMJD5) Associates with Spindle Microtubules and Is Required for Proper Mitosis.

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