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MCM2 Rabbit pAb

Catalog # AP98411

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P97310
Other Accession	P97310
Reactivity	Human, Mouse
Predicted	Rat, Rabbit, Chicken, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	102078
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from mouse MCM2
Epitope Specificity	601-700/904
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Phosphorylated on Ser-108 by ATR in proliferating cells. Ser-108 proliferation is increased by genotoxic agents. Ser-40 is mediated by the CDC7-DBF4 and CDC7-DBF4B complexes, while Ser-53 phosphorylation is only mediated by the CDC7-DBF4 complex. Phosphorylation by the CDC7-DBF4 complex during G1/S phase is required for the initiation of DNA replication.
SUBUNIT	Component of the MCM2-7 complex. The complex forms a toroidal hexameric ring with the proposed subunit order MCM2-MCM6-MCM4-MCM7-MCM3-MCM5. Interacts with KAT7 and DBF4. May interact with MCM10.
Post-translational modifications	Phosphorylated on Ser-108 by ATR in proliferating cells. Ser-108 proliferation is increased by genotoxic agents. Ser-40 is mediated by the CDC7-DBF4 and CDC7-DBF4B complexes, while Ser-53 phosphorylation is only mediated by the CDC7-DBF4 complex. Phosphorylation by the CDC7-DBF4 complex during G1/S phase is required for the initiation of DNA replication.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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. Multiple alternatively spliced transcript variants have been found, but the full-length nature of some variants has not been defined. [provided by RefSeq, Oct 2012]

Additional Information

Gene ID	17216
Other Names	BM28; CCNL1; CDCL1; D3S3194; DFNA70; MITOTIN; cdc19; Mcmd2; mKIAA0030; MCM2_HUMAN; MCM2; Minichromosome maintenance protein 2 homolog; Nuclear protein BM28; 3.6.4.12; KIAA0030; MCM2_MOUSE; minichromosome maintenance complex component 2; minichromosome maintenance deficient (S. cerevisiae) 2 (mitotin); MCM2 minichromosome maintenance deficient 2, mitotin (S. cerevisiae)
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=3ug/Test
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	Mcm2
Synonyms	Bm28, Cdcl1, Kiaa0030, Mcmd2
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. 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. Required for the entry in S phase and for cell division (PubMed:10567526). Plays a role in terminally differentiated hair cells development of the cochlea and induces cells apoptosis (By similarity).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:P49736}. Chromosome {ECO:0000250|UniProtKB:P49736}. Note=Associated with chromatin before the formation of nuclei and detaches from it as DNA replication progresses. {ECO:0000250|UniProtKB:P55861}

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