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

MCM4 Rabbit pAb

Catalog # AP100210

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	P33991
Other Accession	P33991
Predicted	Rat, Pig, Human, Mouse, Rabbit, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	96558
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human MCM4
Epitope Specificity	761-863/863
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the MCM family. Contains 1 MCM domain.
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 (By simililarity). Interacts with MCMBP.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The mini-chromosome maintenance (MCM) family of proteins, including MCM2, MCM3, MCM4 (Cdc21), MCM5 (Cdc46), MCM6 (Mis5) and MCM7 (Cdc47), are regulators of DNA replication that act to ensure replication occurs only once in the cell cycle. Expression of MCM proteins increases during cell growth, peaking at G1 to S phase. The MCM proteins each contain an ATP-binding motif, which is predicted to mediate ATP-dependent opening of double-stranded DNA. MCM proteins are regulated by E2F transcription factors, which induce MCM expression, and by protein kinases, which interact with MCM proteins to maintain the postreplicative state of the cell. MCM2/MCM4 complexes function as substrates for Cdc2/cyclin B in vitro. Cleavage of MCM3, which can be prevented by caspase inhibitors, results in the inactivation of the MCM complex (composed of at least MCM proteins 2-6) during apoptosis.

Additional Information

Gene ID	4173
Other Names	CDC21; CDC54; IMD54; NKCD; NKGCD; P1-CDC21; hCdc21; 19G; Mcmd4; mKIAA4003; mcdc21; MCM4_HUMAN; MCM4; CDC21 homolog; 3.6.4.12; MCM4_MOUSE; minichromosome maintenance complex component 4; MCM4 minichromosome maintenance deficient 4 (S. cerevisiae); DNA replication licensing factor MCM4

Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
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	MCM4 (HGNC:6947)
Synonyms	CDC21
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:16899510, 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:16899510, PubMed:25661590, PubMed:32453425, PubMed:9305914).
Cellular Location	Nucleus. Chromosome. Note=Associated with chromatin before the formation of nuclei and detaches from it as DNA replication progresses.

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