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Geminin Rabbit pAb

Catalog # AP100122

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	O75496
Other Accession	O75496
Reactivity	Human, Mouse
Predicted	Rat, Pig, Rabbit, Chicken, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	23565
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Geminin
Epitope Specificity	111-209/209
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 geminin family.
SUBUNIT	Homotetramer. Interacts with CDT1; inhibits binding of the MCM complex to origins of replication. Interacts with IDAS; targets GMNN to the nucleus, prevents GMNN interaction with CDT1 and competes with IDAS homodimerization.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Inhibits DNA replication by preventing the incorporation of MCM complex into prereplication complex (pre-RC). It is degraded during the mitotic phase of the cell cycle. Its destruction at the metaphase-anaphase transition permits replication in the succeeding cell cycle. Geminin is a nuclear protein that regulates the initiation of DNA replication during the cell cycle. DNA replication requires the coordinated association of cdc6 and minichromosome maintenance (MCM) proteins with chromatin. Geminin blocks this assembly of the MCM into the prereplication complex and, in turn, prevents replication from occurring. Expression of geminin fluctuates throughout the cell cycle with geminin levels lowest at G1. Throughout S, G2 and M phases, geminin levels are consistently elevated followed by a decrease during mitosis. The initiation of DNA replication is dependent on the the degradation of geminin during mitosis and the absence of geminin throughout G1 phase. Geminin degradation is mediated by the anaphase-promoting complex (APC), which specifically targets B-type cyclins and other proteins containing a destruction box motif for degradation by ubiquitin-mediated proteolysis.

Additional Information

Gene ID	51053

Other Names	Gem; MGORS6; GEMI_HUMAN; GMNN; geminin DNA replication inhibitor
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1 □g/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	GMNN
Function	Inhibits DNA replication by preventing the incorporation of MCM complex into pre-replication complex (pre-RC) (PubMed:14993212, PubMed:20129055, PubMed:24064211, PubMed:9635433). It is degraded during the mitotic phase of the cell cycle (PubMed:14993212, PubMed:24064211, PubMed:9635433). Its destruction at the metaphase- anaphase transition permits replication in the succeeding cell cycle (PubMed:14993212, PubMed:24064211, PubMed:9635433). Inhibits histone acetyltransferase activity of KAT7/HBO1 in a CDT1-dependent manner, inhibiting histone H4 acetylation and DNA replication licensing (PubMed:20129055). Inhibits the transcriptional activity of a subset of Hox proteins, enrolling them in cell proliferative control (PubMed:22615398).
Cellular Location	Cytoplasm. Nucleus. Note=Mainly cytoplasmic but can be relocalized to the nucleus.

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