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

GEMC1 Antibody

Catalog # ASC11339

Product Information

Application	WB, E
Primary Accession	A6NCL1
Other Accession	NP_001140158, 226442751
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	37887
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	GEMC1 antibody can be used for detection of GEMC1 by Western blot at 1 g/mL.

Additional Information

Gene ID	647309
Other Names	Geminin coiled-coil domain-containing protein 1, GMNC, GEMC1
Target/Specificity	GEMC1;
Reconstitution & Storage	GEMC1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	GEMC1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GMNC
Synonyms	GEMC1
Function	Regulator of DNA replication. Promotes initiation of chromosomal DNA replication by mediating TOPBP1- and CDK2-dependent recruitment of CDC45L onto replication origins (By similarity).
Cellular Location	Nucleus. Note=Associates with chromatin during pre-replication complex (pre-RC) formation

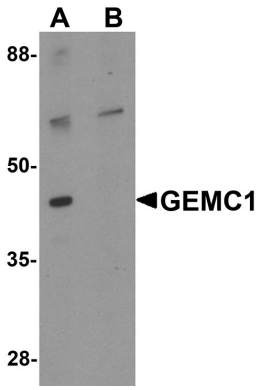
Background

GEMC1 Antibody: The Geminin coiled-coil domain-containing protein 1 (GEMC1) is a highly conserved protein that is required for chromosomal replication. GEMC1 contains a region similar to the coiled-coil domain of geminin, an essential vertebrate replication protein in which the coiled-coil domain is required for the function. GEMC1 binds to the checkpoint and replication factor TopBP1, allowing the binding of GEMC1 to chromatin during pre-replication complex formation. GEMC1 also directly interacts with replication factors Cdc45 and Cdk2-CyclinE and stimulates the initiation of DNA replication. Depletion of GEMC1 by siRNA in embryonic and somatic vertebrate cells prevents DNA replication due to impairment of Cdc45 loading onto chromatin, suggesting GEMC1 promotes initiation of DNA replication by mediating TopBP1 and Cdk2 dependent recruitment of Cdc45 onto replication origins.

References

Piergiovanni G, Costanzo V. GEMC1 is a novel TopBP1-interacting protein involved in chromosomal DNA replication. Cell Cycle 2010; 9:3662-6.
McGarry TJ and Kirschner MW. Geminin, an inhibitor of DNA replication, is degraded during mitosis. Cell 1998; 93:1043-53.
Rowles A and Blow JJ. Chromatin proteins involved in the initiation of DNA replication. Curr. Opin. Genet. Dev. 1997; 7:152-7.
Balestrini A, Cosentino C, Errico A, et al. GEMC1 is a TopBP1 interacting protein required for chromosomal DNA replication. Nat. Cell Biol. 2010; 12:484-91.

Images



Western blot analysis of GEMC1 in mouse heart tissue lysate with GEMC1 antibody at 1 µg/mL in (A) the absence and (B) the presence of blocking peptide

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.