



Product Datasheet

Product Name	Geminin Human Recombinant
Cata No	CB501190
Source	<i>Escherichia Coli.</i>
Synonyms	GMNN, Geminin, DNA Replication Inhibitor, Gem, RP3-369A17.3.

Description

Geminin is a 25 kDa nuclear protein, which inhibits DNA replication and is degraded during the mitotic phase of the cell cycle. Geminin controls replication by binding to the licensing factor Cdt1, and is involved in neural differentiation. In addition, Geminin directly interacts with Six3 and Hox homeodomain proteins during embryogenesis and inhibits their functions. Geminin can also promote DNA replication. Geminin has 2 roles in 2 different stages of the cell cycle: Geminin is a negative regulator of DNA replication during the "S phase" of the cell cycle. Inhibition of Geminin during the "S phase" (by RNAi) results in an additional round of replication of portions of the genome. During the "M phase" of the cell cycle (mitosis) Geminin stabilizes the replication factor Cdt1 promoting DNA replication during the next cell cycle. Moreover, inhibition of Geminin during mitosis (by RNAi) causes destabilization of Cdt1 protein and impairment of DNA replication during the next cell cycle. Geminin thus guarantees that only one round of replication occurs during each cell cycle. It was discovered that Geminin is overexpressed in a number of malignancies and cancer cell lines. This maintains the concept that Geminin has also a positive role in DNA replication and cell cycle progression. Geminin accumulates through S, G2 and M phases of the cell cycle but is absent during the G1 phase. During the metaphase/anaphase transition of mitosis Geminin levels decrease. Geminin Human Recombinant fused to N-terminal

His-Tag produced in E.Coli is a single, non-glycosylated polypeptide chain containing 245 amino acids and having a molecular mass of 27.7 kDa.

Physical Appearance

Sterile Filtered colorless solution.

Purity

Greater than 95.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

Formulation

The protein solution contains 20mM Tris pH 8, 100mM NaCl and 10% glycerol.

Stability

Geminin although stable 4°C for 4 weeks, should be stored desiccated below -18°C.

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please prevent freeze-thaw cycles.

Sequence

MRGSHHHHHH GMASMTGGQQ MGRDLYDDDD
KDRWGSMNPS MKQKQEEIKE NIKNSSVPRR
TLKMIQPSAS GSLVGRENEL SAGLSKRKHR
NDHLTSTTSS PGVIVPESE NKNLGGVTQE
SFDLMIKENP SSQYWKEVAE KRRKALYEAL
KENEKLHKEI EQKDNEIARL KKENKELAEV
AEHVQYMAEL IERLNGEPLD NFESLDNQEF
DSEEETVEDS LVEDSEIGTC AEGTVSSSTD
AKPCI.

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California Bioscience

83103 Avenue 48, Ste.1B #204
Coachella, CA 92236 USA
Phone : +1.6268339877
Email : info@cali-bio.com

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