Active Recombinant Human GSN Protein (125-150aa), N-6×His-tagged

Cat. No. GSN-13H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Gelsolin protein has been purified from E.coli expressing recombinant 6×His-tagged human gelsolin (plasma isoform). Gelsolin belongs to a class of actin severing and capping proteins called class I F-actin capping proteins. Each of these class I proteins contains a series of conserved 125-150 amino acid repeat motifs. Gelsolin is characterized by the presence of six repeated motifs, three of which are actin binding domains. Gelsolin exerts a powerful regulatory role on actin filament length and its activity can be modulated by Ca2+ levels, pH, polyphosphoinositides and post-translational modification. Plasma gelsolin contains an additional 25aa leader sequence compared to the cytoplasmic isoform.
Species	Human
Source	E.coli
ProteinLength	125-150
Description	The protein encoded by this gene binds to the "plus" ends of actin monomers and filaments to prevent monomer exchange. The encoded calcium-regulated protein functions in both assembly and disassembly of actin filaments. Defects in this gene are a cause of familial amyloidosis Finnish type (FAF). Multiple transcript variants encoding several different isoforms have been found for this gene.
Form	White lyophilized powder

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Bio-activity	The biological activity of gelsolin is determined in an F-actin severing assay. F-actin is incubated with gelsolin and the reaction products are centrifuged at 100,000 × g for 1 h. The proportion of actin in the supernatant (G-actin) versus the pellet (F-actin) is compared to a control reaction without gelsolin. Stringent quality control ensures that gelsolin (2 µg) can solubilize 70-80% of F-actin (5 µg) in five min.
Molecular Mass	95 kDa
Purity	>90%
Applications	Positive control for studying the activity of F-actin severing and capping proteins Investigation of the effect of actin binding proteins (ABPs) on actin dynamics
Stability	The lyophilized protein is stable at 4 centigrade desiccated (< 10% humidity) for 6 months.
Storage	Briefly centrifuge to collect the product at the bottom of the tube. The protein should be reconstituted to 1 mg/ml by the addition of 20 µl of Milli-Q water. The protein will be in the following buffer: 10 mM Tris pH 7.5, 10 mM NaCl, 0.1 mM MgCl2, 1% (w/v) sucrose and 0.1% (w/v) dextran. In order to maintain high biological activity of the protein, it is recommended that the protein solution be aliquoted into "experiment sized" amounts, snap frozen in liquid nitrogen and stored at -70 centigrade. The protein is stable for 6 months if stored at -70 centigrade. The protein should not be exposed to repeated freeze-thaw cycles. The lyophilized protein is stable at 4 centigrade desiccated (<10% humidity) for 6 months.
Reconstitution	After reconstitution with of nanopure water, the protein will be in the following buffer: 10 mM Tris pH 7.5, 10 mM NaCl, 0.1 mM MgCl2, 1% (w/v) sucrose, and 0.1% (w/v) dextran.

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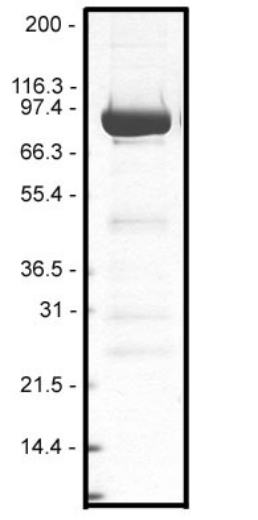
GENE INFORMATION

Gene Name	GSN gelsolin [Homo sapiens (human)]
Official Symbol	GSN
Synonyms	GSN; gelsolin; gelsolin (amyloidosis, Finnish type); amyloidosis; Finnish type; DKFZp313L0718; brevin; actin-depolymerizing factor; ADF; AGEL
Gene ID	2934
mRNA Refseq	NM_000177
Protein Refseq	NP_000168
MIM	137350
UniProt ID	P06396
Purity	

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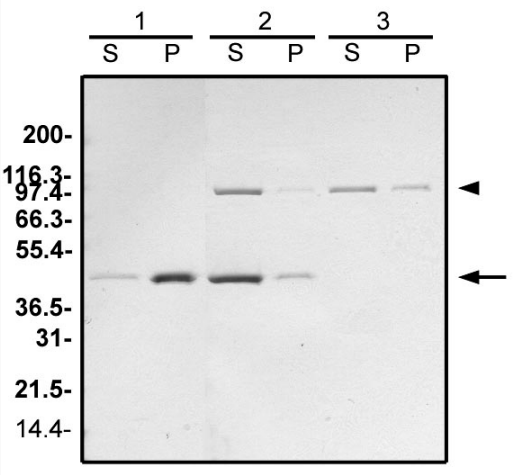
	Gelsolin protein purity determination. A 20 µg sample of HPG5 was separated by electrophoresis in a 4-20% SDS-PAGE system and stained with Coomassie Blue. Protein quantitation was performed using the Precision Red Protein Assay Reagent.
Biological Activity	

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