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**Product Data Sheet**


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Product Name: Noggin Human, Sf9  
 Cat. No.: GP20785  
 Batch No.: 1

**Product Data**

Purity	>98%	Source	Sf9, Insect cells.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Noggin; Symphalangism 1 (Proximal); Synostoses (Multiple) Syndrome 1; SYNS1A; SYNS1; SYM1.		
Amino Acid Sequence	QHYLHIRPAPSDNLPLVDLI EHPDPIFDPK EKDLNETLLR SLLGGHYDPG FMATSPPEDR PGGGGGAAGG AEDLAELDQLLRQRPSGAMP SEIKGLEFSE GLAQGKKQRL SKKLRRKLQM WLWSQTFPCPV LYAWNDLGSR FWPRYVKVGVSCFSKRSCSVP EGMVCKPSKS VHLTVLRWRC QRRGGQRCGW IPIQYPIISE CKCSCHHHHH H.		
Formulation	Noggin a protein solution (0.25mg/ml) contains phosphate buffered saline (pH7.4) and 10% glycerol.		

**Introduction**

The secreted polypeptide noggin, encoded by the NOG gene, binds and inactivates members of the transforming growth factor-beta (TGF-beta) superfamily signaling proteins, such as bone morphogenetic protein-4 (BMP4). By diffusing through extracellular matrices more efficiently than members of the TGF-beta superfamily, noggin may have a principal role in creating morphogenic gradients. Noggin appears to have pleiotropic effect, both early in development as well as in later stages. It was originally isolated from *Xenopus* based on its ability to restore normal dorsal-ventral body axis in embryos that had been artificially ventralized by UV treatment. The results of the mouse knockout of noggin suggest that it is involved in numerous developmental processes, such as neural tube fusion and joint formation. Recently, several dominant human NOG mutations in unrelated families with proximal symphalangism (SYM1) and multiple synostoses syndrome (SYNS1) were identified; both SYM1 and SYNS1 have multiple joint fusion as their principal feature, and map to the same region (17q22) as NOG. All NOG mutations altered evolutionarily conserved amino acid residues. The

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amino acid sequence of human noggin is highly homologous to that of Xenopus, rat and mouse.

### Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

### Background

Noggin produced in Sf9 Insect cells is a single, glycosylated polypeptide chain containing 211 amino acids (28-232a.a.) and having a molecular mass of 23.8kDa. (Molecular size on SDS-PAGE will appear at approximately 28-40kDa). Noggin is expressed with a 6 amino acid His tag at C-Terminus and purified by proprietary chromatographic techniques.

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