

## Product datasheet for **TP723333**

### Noggin (NOG) (NM\_005450) Human Recombinant Protein

#### Product data:

Product Type:	Recombinant Proteins
Description:	Purified recombinant protein of Human noggin (NOG).
Species:	Human
Expression Host:	HEK293
Expression cDNA Clone or AA Sequence:	QHYLHIRPAP SDNLPLVDLI EHPDPIFDPK EKDLNETLLR SLLGGHYDPG FMATSPPEDR PGGGGGAAGG AEDLAELDQL LRQRPSGAMP SEIKGLEFSE GLAQGKKQRL SKKLRRKLQM WLWSQTFPCV LYAWNDLGSR FWPRYVKVGS CFSKRSCSVP EGMVCKPSKS VHLLTVLRWRC QRRGGQRCGW IPIQYPIISE CKCSC
Tag:	Tag Free
Predicted MW:	25.81
Concentration:	lot specific
Purity:	>95% as determined by SDS-PAGE and Coomassie blue staining
Buffer:	Lyophilized from a 0.2 $\mu$ M filtered solution of 20mM phosphate buffer, 100mM NaCl, pH 7.2
Bioactivity:	Determined by its ability to inhibit 5.0 ng/ml of BMP-4 induced alkaline phosphatase production by ATDC chondrogenic cells. The expected ED50 for this effect is 2.0-3.0 ng/ml of Noggin.
Endotoxin:	Endotoxin level is < 0.1 ng/ $\mu$ g of protein (< 1 EU/ $\mu$ g)
Storage:	Store at -80°C.
Stability:	Stable for at least 6 months from date of receipt under proper storage and handling conditions.
RefSeq:	<u><a href="#">NP_005441</a></u>
Locus ID:	9241
UniProt ID:	<u><a href="#">Q13253</a></u>
RefSeq Size:	1892
Cytogenetics:	17q22
RefSeq ORF:	696
Synonyms:	SYM1; SYNS1; SYNS1A



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**Summary:**

The secreted polypeptide, encoded by this 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, this protein may have a principal role in creating morphogenic gradients. The protein 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 the ortholog 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 this gene. All of these mutations altered evolutionarily conserved amino acid residues. The amino acid sequence of this human gene is highly homologous to that of *Xenopus*, rat and mouse. [provided by RefSeq, Jul 2008]

**Protein Families:**

Druggable Genome, Secreted Protein

**Protein Pathways:**

TGF-beta signaling pathway