

Recombinant Human NOG

Cat. No. NOG-30336TH **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Recombinant Noggin fragment (Human), 46.2 kDa disulfide-linked homodimer (120-10D) consisting of two 206 amino acid polypeptide chains.

Species

Human

Source

E.coli

Description

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.

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Form	Lyophilised:Reconstitute in 10 mM Acetic Acid to a concentration of 0.1-1.0 mg/ml. Do not vortex. This solution can be stored at 2-8°C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (ex
Purity	>95% by SDS-PAGE
Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Sequences of amino acids	MQHYLHIRPA PSDNLPLVDL IEHPDPIFDP KEKDLNETLL RSLGGHYDP GFMATSPPED RPPGGGGGAAG GAEDLAELDQ LLRQRPSGAM PSEIKGLEFS EGLAQGKKQR LSKKLRRKLQ MWLWSQTFCP VLYAWNDLGS RFWPRYVKVG SCFSKRSCSV PEGMVCKPSK SVHLTVLRWR CQRRGGQRCG WIPIQYPIIS ECKCSC
Sequence Similarities	Belongs to the noggin family.

GENE INFORMATION

Gene Name	NOG noggin [Homo sapiens]
Official Symbol	NOG
Synonyms	NOG; noggin; SYM1, symphalangism 1 (proximal) , synostoses (multiple) syndrome 1 , SYNS1;
Gene ID	9241
mRNA Refseq	NM_005450
Protein Refseq	NP_005441

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MIM	602991
Uniprot ID	Q13253
Chromosome Location	17q22
Pathway	BMP receptor signaling, organism-specific biosystem; Signal Transduction, organism-specific biosystem; Signaling by BMP, organism-specific biosystem; TGF Beta Signaling Pathway, organism-specific biosystem; TGF-beta signaling pathway, organism-specific biosystem;
Function	cytokine binding; protein complex binding; protein homodimerization activity;

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