

## 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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<b>Form</b>	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
<b>Purity</b>	>95% by SDS-PAGE
<b>Storage</b>	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
<b>Sequences of amino acids</b>	MQHYLHIRPA PSDNLPLVDL IEHPDPIFDP KEKDLNETLL RSLGGHYDP GFMATSPPED RPPGGGGGAAG GAEDLAELDQ LLRQRPSGAM PSEIKGLEFS EGLAQGKKQR LSKKLRRKLQ MWLWSQTFCP VLYAWNDLGS RFWPRYVKVG SCFSKRSCSV PEGMVCKPSK SVHLTVLRWR CQRRGGQRCG WIPIQYPIIS ECKCSC
<b>Sequence Similarities</b>	Belongs to the noggin family.

## GENE INFORMATION

<b>Gene Name</b>	<a href="#">NOG</a> <a href="#">noggin</a> [ <a href="#">Homo sapiens</a> ]
<b>Official Symbol</b>	<a href="#">NOG</a>
<b>Synonyms</b>	NOG; noggin; SYM1, symphalangism 1 (proximal) , synostoses (multiple) syndrome 1 , SYNS1;
<b>Gene ID</b>	<a href="#">9241</a>
<b>mRNA Refseq</b>	<a href="#">NM_005450</a>
<b>Protein Refseq</b>	<a href="#">NP_005441</a>

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<b>MIM</b>	602991
<b>Uniprot ID</b>	Q13253
<b>Chromosome Location</b>	17q22
<b>Pathway</b>	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;
<b>Function</b>	cytokine binding; protein complex binding; protein homodimerization activity;

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