

# Active Recombinant Human Noggin

Cat. No. NOG-2745H    Lot. No. (See product label)

## SPECIFICATION

<b>Product Overview</b>	Recombinant human Noggin is a 23.1 kDa non-disulfide-linked homodimer consisting of a total of 206 amino acid residues. It was expressed in <i>Nicotiana benthamiana</i> . Recombinant human noggin is purified by chromatography (FPLC). It contains no animal –derived components or impurities.
<b>Species</b>	Human
<b>Source</b>	Nicotiana Benthamiana
<b>Description</b>	<p>Noggin is a secreted homodimeric glycoprotein that belongs to a group of diffusible proteins which bind to ligands of the TGF-beta family and regulate their activity by inhibiting their access to signaling receptors. Noggin has a complex pattern of expression during embryogenesis, and is expressed in the central nervous system, as well as in several peripheral tissues such as lung, skeletal muscle, and skin in adult. It plays a crucial role in bone development, by regulating the functions of BMP"s.</p> <p>Noggin binds the bone morphogenetic proteins (BMP) such as BMP-4 and BMP-7, and inhibits BMP signaling by blocking the molecular interfaces of the binding epitopes for both type I and type II receptors. During the morphogenesis of organs such as the lungs, teeth and hair follicles, noggin helps to produce Lef1. Interaction of BMP and its antagonist Noggin governs various developmental and cellular processes, including embryonic dorsal-ventral axis, induction of neural tissue, formation of joints in the skeletal system and neurogenesis in the adult brain.</p>
<b>Molecular Formula</b>	C1059H1649N313O293S13.

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<b>Extinction Coefficient</b>	E0.1% = 1.71 (A280 nm).
<b>Molecular Weight</b>	23.8 kDa, 211 amino acids per chain.
<b>P.I</b>	9.1.
<b>Purity Assay</b>	>95% by SDS-PAGE gel.
<b>Endotoxin Level</b>	< 0.04 EU/ g protein (LAL method).
<b>Formulation</b>	Lyophilized from a buffer of Tris HCl 0.05M pH 7.4.
<b>Activity</b>	Determined by its ability to inhibit 5 ng/ml of BMP-4 induced alkaline phosphatase production by ATDC5 chondrogenic cells.
<b>Storage</b>	This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage. The product, as supplied is stable for at least 2 years. Diluted solutions are less stable than concentrated ones. Repeated freezing and thawing is not recommended.

## GENE INFORMATION

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

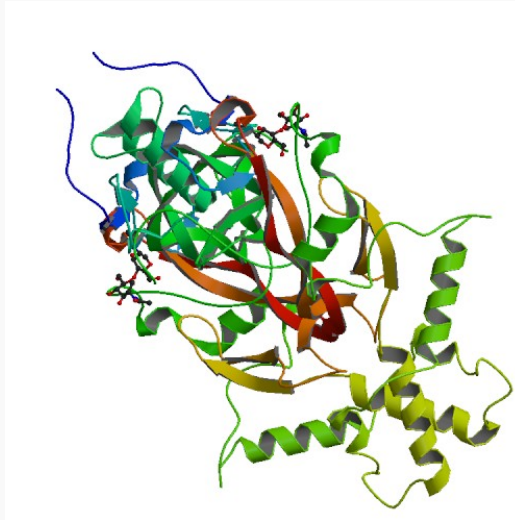
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<b>Protein Refseq</b>	NP_005441
<b>MIM</b>	602991
<b>UniProt ID</b>	Q13253
<b>Chromosome Location</b>	17q21-q22
<b>Pathway</b>	TGF-beta signaling pathway; Signaling by BMP
<b>Function</b>	protein homodimerization activity; cytokine binding

PDB rendering based on 1m4u.



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