

Active GMP Recombinant Human NOG Protein

Cat. No. NOG-01HG **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Recombinant human NOG protein, was expressed in CHO-K1 cell-derived in an animal component free process under cGMP guidelines.

Species

Human

Source

CHO

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	Lyophilized powder
Endotoxin	<20 EU/mg
Bio-activity	>5.0 x 10 ⁵ IU/mg
Purity	>95.0% by high performance liquid chromatography (SEC-HPLC) and SDS-PAGE.
Storage Buffer	10mM Phosphate-Buffered Saline (pH 7.2)
Storage	Stable storage at 4°C for 7-10 days; for long-term storage, please store at -20°C after dispensing.
Sterility	Sterility
Instructions	It is recommended that lyophilized GMP rhNOG be dissolved in water for injection or sterilized ultrapure water at a concentration of not less than 100 µg/ml, pending further dilution to working concentration.

GENE INFORMATION

Gene Name	NOG noggin [Homo sapiens (human)]
Official Symbol	NOG
Synonyms	SYM1; SYNS1; SYNS1A
Gene ID	9241
mRNA Refseq	NM_005450.6

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Protein Refseq	NP_005441.1
UniProt ID	Q13253
MIM	602991

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