

## Active Recombinant Human NOG Protein (Gln28-Cys232), C-Fc-tagged, GMP Grade

Cat. No. NOG-03HG Lot. No. (See product label)

### SPECIFICATION

<b>Product Overview</b>	GMP recombinant human Noggin protein (Gln28-Cys232) with a Human IgG1 (Pro100-Lys330) Fc tag at C-terminus was expressed in Mouse myeloma cell line and manufactured and tested under cGMP guidelines.
<b>Species</b>	Human
<b>Source</b>	NS0
<b>ProteinLength</b>	Gln28-Cys232
<b>Description</b>	<p>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 <i>Xenopus</i> 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</p>

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(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.

**Form**

Disulfide-linked homodimer

**Bio-activity**

Measured by its ability to inhibit BMP-4-induced alkaline phosphatase production by ATDC5 mouse chondrogenic cells. The ED50 for this effect is 0.1-0.4 µg/mL in the presence of 30 ng/mL of Recombinant Human BMP-4.

**Molecular Mass**

Predicted Molecular Mass: 49.6 kDa (monomer)  
 SDS-PAGE: 58-62 kDa, reducing conditions; 110-130 kDa, non-reducing conditions

**N-terminal Sequence Analysis**

Amino acid sequencing was blocked, suggesting it is consistent with Gln28 as the first N-terminal amino acid. Predicted N-terminal sequence: Gln28-His-Tyr-Leu-His-Ile-Arg-Pro-Ala-Pro

**Endotoxin**

<0.10 EU/ µg of the protein by the LAL method.

**Purity**

>90%, by SDS-PAGE with silver staining, under reducing conditions.

**Storage**

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.  
 A minimum of 12 months when stored at ≤ -20 centigrade as supplied. Refer to lot specific COA for the Use by Date.  
 1 month, 2 to 8 centigrade under sterile conditions after reconstitution.  
 3 months, ≤ -20 centigrade under sterile conditions after reconstitution.

**Storage Buffer**


Lyophilized from a 0.2 µm filtered solution in PBS.

**Reconstitution**

Reconstitute at 100 µg/mL in PBS.

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**Shipping** The product is shipped with polar packs.

## GENE INFORMATION

**Gene Name** NOG noggin [ Homo sapiens ]

**Official Symbol** NOG

**Synonyms** NOG; noggin; SYM1, symphalangism 1 (proximal) , synostoses (multiple) syndrome 1 , SYNS1; symphalangism 1 (proximal); SYM1; SYNS1;

**Gene ID** 9241

**mRNA Refseq** NM\_005450

**Protein Refseq** NP\_005441

**MIM** 602991

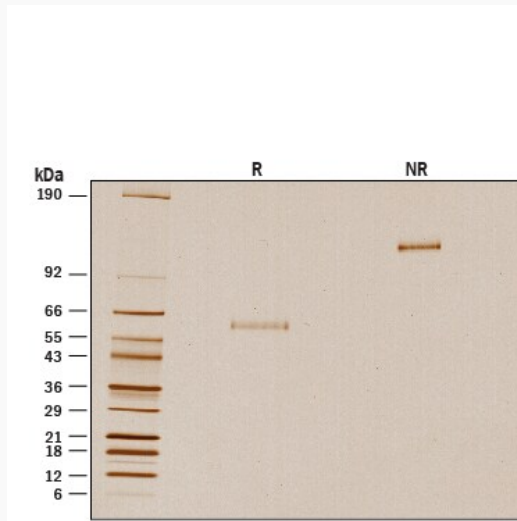
**UniProt ID** Q13253

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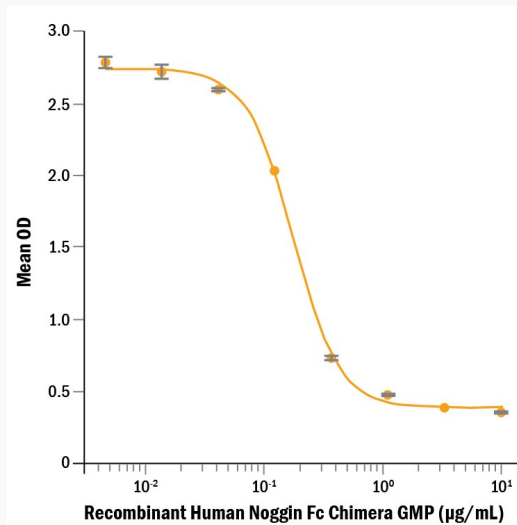
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**SDS-PAGE**



**Bioactivity**



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