

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

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

SPECIFICATION

Product Overview	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.
Species	Human
Source	NS0
ProteinLength	Gln28-Cys232
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 <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

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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

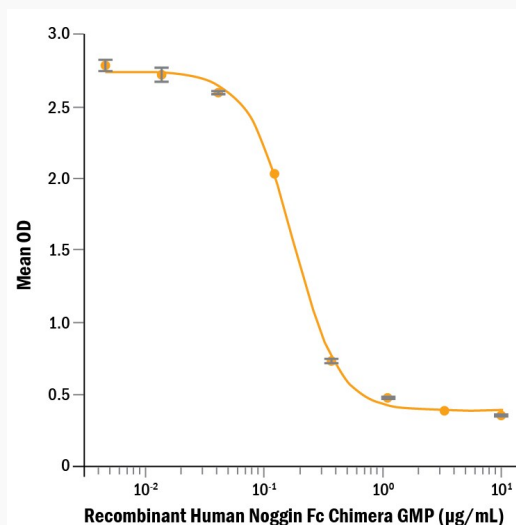
Gene Name	NOG noggin [Homo sapiens]
Official Symbol	NOG
Synonyms	NOG; noggin; SYM1, symphalangism 1 (proximal) , synostoses (multiple) syndrome 1 , SYNS1; symphalangism 1 (proximal); SYM1; SYNS1;
Gene ID	9241
mRNA Refseq	NM_005450
Protein Refseq	NP_005441
MIM	602991
UniProt ID	Q13253

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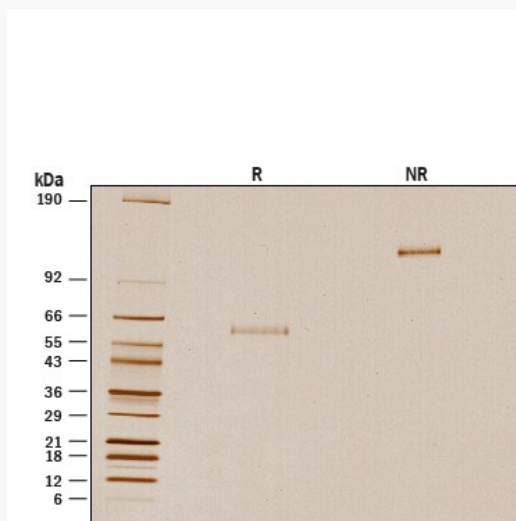
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Bioactivity



SDS-PAGE



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