Recombinant Human NOG protein

Cat. No. NOG-21H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human NOG protein was expressed in Escherichia coli.
Species	Human
Source	E.coli
ProteinLength	206
Description	Noggin encoded by the NOG gene, was first isolated from Xenopus, having the function of inducing secondary axis formation in frog embryos. It inhibits TGF-β family ligands and preventing them from binding to their corresponding receptors. Noggin was originally found as a BMP-4 antagonist, and then has been shown to modulate the activities of other BMPs (BMP-2, 7, 13 and 14). Additionally, it has pleiotropic effect, both in early development and later stages. The results of the mouse knockout of noggin suggest that it is involved in numerous developmental processes, such as neural tube fusion and joint formation. In recent report, proximal symphalangism (SYM1) and multiple synostoses syndrome (SYNS1) have relation with the mutant of evolutionarily conserved amino acid residues of Noggin. Mature human Noggin shares 99 %, 99 %, 98 %, 97 % and 89 % a.a. sequence identity with mouse, rat, bovine, equine and chicken Noggin, respectively.
Form	Lyophilized from a 0.2μm filtered concentrated solution in 30 % acetonitrile, 0.1 % TFA.
Bio-activity	Fully biologically active when compared to standard. The ED50 as determined by

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	inhibiting BMP-4-induced alkaline phosphatase production of murine ATDC5 cells is less than 3.0 ng/ml, corresponding to a specific activity of > 3.3×10^5 IU/mg in the presence of 5 ng/ml rHuBMP-4.
Molecular Mass	Approximately 46.3 kDa, non-disulfide-linked homodimer consisting of two 206 amino acid polypeptide chains.
AA Sequence	MQHYLHIRPAPSDNLPLVDLIEHPDPIFDPKEKDLNETLLRSLLGGHYDPGFMATSPP EDRPGGGGGAAGGAEDLAELDQLLRQRPSGAMPSEIKGLEFSEGLAQGKKQRLSK KLRRKLQMWLWSQTFCPVLYAWNDLGSRFWPRYVKVGSCFSKRSCSVPEGMVCK PSKSVHLTVLRWRCQRRGGQRCGWIPIQYPIISECKCSC
Endotoxin	Less than 1 EU/μg of rHuNoggin as determined by LAL method.
Purity	>95% by SDS-PAGE and HPLC analysis.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 centigrade under sterile conditions after reconstitution.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in 10mM HCl to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤-20 centigrade. Further dilutions should be made in appropriate buffered solutions.

GENE INFORMATION

Gene Name	NOG
Official Symbol	NOG

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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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