Active Recombinant Mouse Nog Protein (206 aa)

Cat. No. Nog-019N **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Mouse Nog Protein without tag was expressed in E. coli.
Species	Mouse
Source	E.coli
ProteinLength	206
Description	Noggin belongs to a group of diffusible proteins which bind to ligands of the TGF-β family and regulate their activity by inhibiting their access to signaling receptors. The interplay between TGF-β ligands and their natural antagonists has major biological significance during development processes, in which cellular response can vary considerably depending upon the local concentration of the signaling molecule. Noggin was originally identified as a BMP-4 antagonist whose action is critical for proper formation of the head and other dorsal structures. Consequently, Noggin has been shown to modulate the activities of other BMPs including BMP-2,-7,-13, and -14. Targeted deletion of Noggin in mice results in prenatal death and recessive phenotype displaying a severely malformed skeletal system. Conversely, transgenic mice over-expressing Noggin in mature osteoblasts display impaired osteoblastic differentiation, reduced bone formation, and severe osteoporosis.
Form	Sterile Filtered White lyophilized (freeze-dried) powder.
Bio-activity	Determined by its ability to inhibit 5.0 ng/mL of BMP-4 induced alkaline phosphatase production by ATDC chondrogenic cells. The expected ED50 for this effect is 1.0-2.0

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	ng/mL of Noggin, corresponding to a Specific Activity of 5 × 10^5 IU/mg.
Molecular Mass	Approximately 46.4 kDa disulfide-linked homodimer consisting of two 206 amino acid polypeptide chains.
AA Sequence	QHYLHIRPAPSDNLPLVDLIEHPDPIFDPKEKDLNETLLRSLLGGHYDPGFMATSPPE DRPGGGGGPAGGAEDLAELDQLLRQRPSGAMPSEIKGLEFSEGLAQGKKQRLSKK LRRKLQMWLWSQTFCPVLYAWNDLGSRFWPRYVKVGSCFSKRSCSVPEGMVCKP SKSVHLTVLRWRCQRRGGQRCGWIPIQYPIISECKCSC
Endotoxin	Less than 1 EU/mg of rMuNOGGIN as determined by LAL method.
Purity	>95% by SDS-PAGE and HPLC analyses.
Storage	This lyophilized preparation is stable at 2-8 centigrade, but should be kept at -20 centigrade for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 centigrade. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 to -70 centigrade. Avoid repeated freeze/thaw cycles.
Storage Buffer	Lyophilized from a 0.2μm filtered concentrated solution in 30% acetonitrile, 0.1% TFA.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in 10mM HAc 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 noggin [Mus musculus]

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Official Symbol	Nog
Synonyms	NOG; noggin;
Gene ID	18121
mRNA Refseq	NM_008711
Protein Refseq	NP_032737
UniProt ID	P97466

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