

## Active Recombinant Mouse Nog Protein (206 aa)

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

### SPECIFICATION

<b>Product Overview</b>	Recombinant Mouse Nog Protein without tag was expressed in E. coli.
<b>Species</b>	Mouse
<b>Source</b>	E.coli
<b>ProteinLength</b>	206
<b>Description</b>	<p>Noggin belongs to a group of diffusible proteins which bind to ligands of the TGF-<math>\beta</math> family and regulate their activity by inhibiting their access to signaling receptors. The interplay between TGF-<math>\beta</math> 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.</p> <p>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.</p>
<b>Form</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Bio-activity</b>	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 $5 \times 10^5$ IU/mg.
<b>Molecular Mass</b>	Approximately 46.4 kDa disulfide-linked homodimer consisting of two 206 amino acid polypeptide chains.
<b>AA Sequence</b>	QHYLHIRPAPSDNLPLVDLIEHPDPIFDPKEKDLNETLLRSLGGHYDPGFMATSPPE DRPGGGGGPAGGAEDLAELDQLLRQRPSPGAMPSEIKGLEFSEGLAQGKKQRLSKK LRRKLMWLWSQTFPCVLYAWNDLGSRFWPRYVKVGSCFSKRSCSVPEGMVCKP SKSVHLTVLRWRCQRRGGQRCGWIPYIPISECKCSC
<b>Endotoxin</b>	Less than 1 EU/mg of rMuNOGGIN as determined by LAL method.
<b>Purity</b>	>95% by SDS-PAGE and HPLC analyses.
<b>Storage</b>	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.
<b>Storage Buffer</b>	Lyophilized from a 0.2µm filtered concentrated solution in 30% acetonitrile, 0.1% TFA.
<b>Reconstitution</b>	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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<b>Official Symbol</b>	<a href="#">Nog</a>
<b>Synonyms</b>	NOG; noggin;
<b>Gene ID</b>	<a href="#">18121</a>
<b>mRNA Refseq</b>	<a href="#">NM_008711</a>
<b>Protein Refseq</b>	<a href="#">NP_032737</a>
<b>UniProt ID</b>	<a href="#">P97466</a>

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