Recombinant Mouse/Rat Nog Protein

Cat. No. Nog-28M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant mouse/rat noggin protein without tag was expressed in E. coli. Animal-free (AOF) and carrier protein-free. Mass spectrometry: single species with expected mass. Analytical reversed-phase: single sharp peak. Recovery from stock vial: >95%
Species	Mouse/Rat
Source	E.coli
Description	Predicted to enable cytokine binding activity and protein homodimerization activity. Involved in several processes, including circulatory system development; negative regulation of cell differentiation; and negative regulation of transmembrane receptor protein serine/threonine kinase signaling pathway. Acts upstream of or within several processes, including animal organ development; embryonic morphogenesis; and regulation of signal transduction. Located in extracellular space. Is expressed in several structures, including branchial arch; embryo ectoderm; heart; limb; and sensory organ. Used to study esophageal atresia/tracheoesophageal fistula. Human ortholog(s) of this gene implicated in Huntington's disease; cleft lip; dysostosis (multiple); hyperopia; and proximal symphalangism (multiple). Orthologous to human NOG (noggin).
Molecular Mass	46 kDa (dimer)

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Endotoxin	<0.005 EU/μg protein (below level of detection)
Applications	Stem cell Expansion and maintenance; primary cell culture
Storage	Resuspend in 10mM HCl at >100 μg/mL, prepare single use aliquots, add carrier protein if desired and store frozen at -20 or -80 centigrade
Storage Buffer	Lyophilized from acetonitrile, TFA

GENE INFORMATION

Gene Name	Nog noggin [Mus musculus (house mouse)]
Official Symbol	Nog
Synonyms	NOG; noggin; SYM1; SYNS1; SYNS1A; noggin; symphalangism 1 (proximal)
Gene ID	18121
mRNA Refseq	NM_008711
Protein Refseq	NP_032737
UniProt ID	P97466
Bioactivity	Noggin is a BMP inhibitor and its activity is determined by inhibition of BMP2activity in a BMP-2 responsive firefly luciferase reporter assay. HEK293T cells are treatedwith a serial dilution of Noggin and standard concentration of BMP2 for 6 hours. Firefly luciferase activity is measured and normalized to the control Renilla luciferase activity. EC50 = 62.7 ng/mL (1.3 nM).

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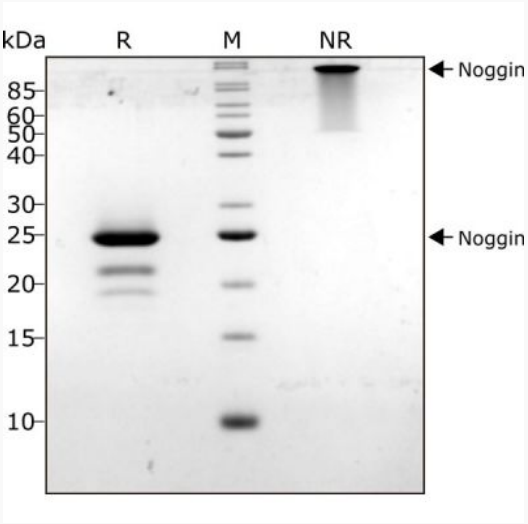
Purity



Noggin proteinhas an unusual migration in non-reducedSDS-PAGE due to the non-covalent dimer which is the active protein. Similar migration in SDS-PAGE is seen for Gremlin-1, a related BMP antagonist. The identity of the purified dimeric protein was confirmed using mass spectrometry. Upon reduction, the protein monomer migrates at 23 kDa. Purified recombinant mouse Noggin protein was resolved using 15% w/v SDS-PAGE in reducedand non-reduced conditionsand stained with Coomassie Brilliant Blue R250

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