

Active Recombinant Human NOG protein

Cat. No. NOG-204H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Human NOG protein (Met1-Cys232) was expressed in HEK293 cells.
Species	Human
Source	HEK293
ProteinLength	205
Description	Noggin is a secreted protein involved at multiple stages of vertebrate embryonic development including neural induction and is known to exert its effects by inhibiting the bone morphogenetic protein (BMP)-signaling pathway. It binds several BMPs with very high (picomolar) affinities, with a marked preference for BMP2 and BMP4 over BMP7. By binding tightly to BMPs, Noggin prevents BMPs from binding their receptors. Noggin binds the bone morphogenetic proteins (BMP) such as BMP-4 and BMP-7, and inhibits BMP signaling by blocking the molecular interfaces of the binding epitopes for both type I and type II receptors. Interaction of BMP and its antagonist Noggin governs various developmental and cellular processes, including embryonic dorsal-ventral axis, induction of neural tissue, formation of joints in the skeletal system and neurogenesis in the adult brain. Noggin plays a key role in neural induction by inhibiting BMP4, along with other TGF-β signaling inhibitors such as chordin and follistatin. Mouse knockout experiments have demonstrated that noggin also plays a crucial role in bone development, joint formation, and neural tube fusion.
Predicted N Terminal	Gln 28

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Form	Lyophilized from sterile PBS, pH 7.4.
Bio-activity	Measured by its ability to inhibit BMP4-induced alkaline phosphatase production by MC3T3E1 mouse preosteoblast cells. The ED50 for this effect is 10-80 ng/mL.
Molecular Mass	The recombinant human NOG consists of 205 amino acids and predicts a molecular mass of 23.1 kDa.
Endotoxin	<1.0 EU per µg protein as determined by the LAL method.
Purity	>95% as determined by SDS-PAGE.
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

GENE INFORMATION

Gene Name	NOG
Official Symbol	NOG
Synonyms	SYM1; SYNS1; SYNS1A; Noggin

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Gene ID 9241

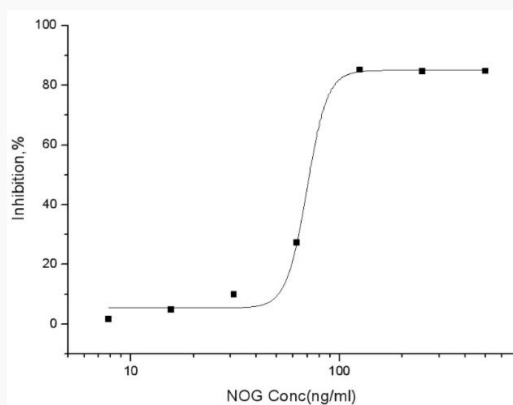
mRNA Refseq NM_005450.6

Protein Refseq NP_005441.1

MIM 602991

UniProt ID Q13253

Activity of NOG-204H



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SDS-PAGE of NOG-
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