

Human Noggin / NOG Protein (Fc Tag)

Catalog Number: 10267-H02H



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

NOG, SYM1, SYNS1

Protein Construction:

A DNA sequence encoding the human Noggin precursor (NP_005441.1) (Met 1-Cys 232) was fused with the Fc region of human IgG1 at the C-terminus.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio-Activity

1. Measured by its ability to inhibit BMP-2 induced alkaline phosphatase production by MC3T3-E1 cells.
The ED50 for this effect is typically 1.5-2.0 µg /mL in the presence of 0.25-0.5 µg/mL of BMP-2.
2. Measured by its ability to inhibit BMP4 induced alkaline phosphatase production by MC3T3-E1 cells.
The ED50 for this effect is typically 0.1-0.6 µg/mL in the presence of 50 ng/mL of hBMP4.

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Gln 28

Molecular Mass:

The recombinant human Noggin/Fc is a disulfide-linked homodimeric protein after removal of the signal peptide. Each monomer comprises 443 amino acids and has a predicted molecular mass of 49.8 kDa. As a result of glycosylation, the apparent molecular mass of rhNoggin/Fc monomer is approximately 58-62 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 100mM Glycine, 10mM NaCl, 50mM Tris, pH 7.5

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

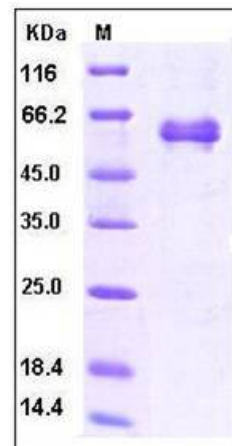
Usage Guide

Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

Noggin is a secreted homodimeric glycoprotein whose scaffold contains a cystine-knot topology similar to that of BMPs. Noggin has a complex pattern of expression during embryogenesis, and is expressed in the central nervous system, as well as in several peripheral tissues such as lung, skeletal muscle, and skin in adult. 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. It has been indicated that BMP-7 induced expression of noggin transcripts within skeletal cell and this noggin expression in turn act antagonistically to attenuate BMP action in the early skeletogenesis. Several dominant Noggin mutations resulted in proximal symphalangism (SYM1) and multiple synostoses syndrome (SYNS1) having joint fusion as their principal feature.

References

1. Valenzuela, D.M. et al., 1995, J. Neurosci. 15: 6077-6084.
2. Brunet, L.J. et al., 1998, Science. 280: 1455-1457.
3. Nifuji, A. 1999, J. Bone. Miner. Res. 14: 2057-2066.
4. Groppe, J. et al., 2002, Nature. 420: 636-642.
5. Marcelino, J. et al., 2001, Proc. Natl. Acad. Sci. 98: 11353-11358.
6. Gong, Y. et al., 1999, Nat. Genet. 21: 302-304.

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