NOG
Recombinant Human Noggin (Fc Tag)

Catalog No.	CRH433A-Fc CRH433B-Fc	**Quantity:**	50 µg 100 µg

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.

UniProt ID: Q13253

Accession Number: NP_005441.1

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

Source: HEK293 Cells

Formulation: Lyophilized from sterile 100mM Glycine, 10mM NaCl, 50mM Tris, pH 7.5
Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.

Molecular Weight: The rhNoggin/Fc is a disulfide-linked homodimer after removal of the signal peptide. The monomer consists of 443 aa with a predicted MW of 49.8 kDa and migrates at ~58-62 kDa in reduced SDS-PAGE, due to glycosylation.

Purity: > 95 % as determined by SDS-PAGE.

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

Biological Activity: 1. Measured by its ability to inhibit BMP2-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.

Cell Sciences®
65 Parker Street
Unit 11
Newburyport, MA 01950

Toll Free: 888-769-1246
Phone: 978-572-1070
Fax: 978-992-0298

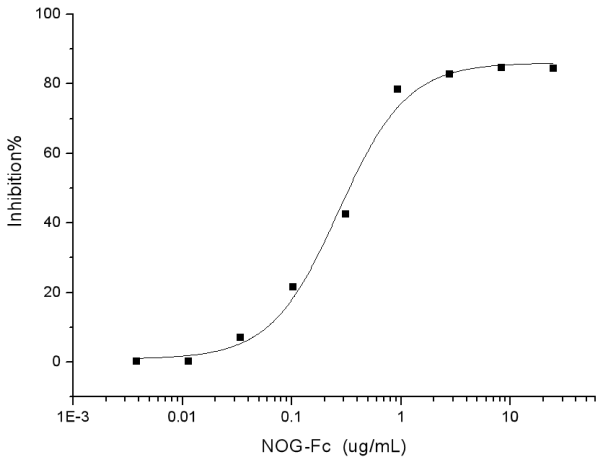
E-mail: info@cellsciences.com
Website: www.cellsciences.com

Predicted N-terminal: Gln 28

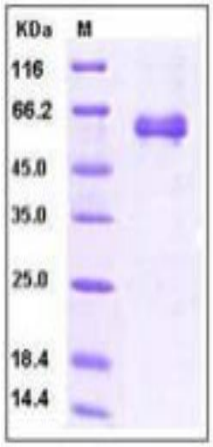
Reconstitution: **Centrifuge vial prior to opening.** Add sterile distilled water to a concentration of 0.1 mg/mL and gently pipette the solution up and down the sides of the vial. **DO NOT VORTEX**. Allow several minutes for complete reconstitution.

Storage & Stability: Stable for up to 1 year from date of receipt at -20°C to -80°C
After reconstitution, store working aliquots at -20°C to -80°C.
Avoid repeated freeze-thaw cycles.

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.



SDS-PAGE



NOT FOR HUMAN USE. FOR RESEARCH ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

Cell Sciences®
65 Parker Street
Unit 11
Newburyport, MA 01950

Toll Free: 888-769-1246
Phone: 978-572-1070
Fax: 978-992-0298

E-mail: info@cellsciences.com
Website: www.cellsciences.com