

Recombinant Human Noggin/NOG Protein

Catalog Number:PKSH033576



Note: Centrifuge before opening to ensure complete recovery of vial contents.

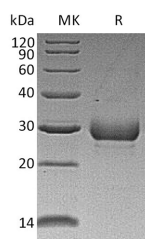
Description

Synonyms	Noggin;NOG
Species	Human
Expression Host	HEK293 Cells
Sequence	Gln28-Cys232
Accession	Q13253
Calculated Molecular Weight	23 kDa
Observed molecular weight	25-33 kDa
Tag	None
Bioactivity	Measured by its ability to inhibit BMP-2-induced alkaline phosphatase production by ATDC5 mouse chondrogenic cells The ED ₅₀ for this effect is 0.2 µg/mL in the presence of 2000 ng/mL of Recombinant Human BMP-2.

Properties

Purity	> 95 % as determined by reducing SDS-PAGE.
Endotoxin	< 0.01 EU per µg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from a 0.2 µm filtered solution of 20mM PB, 500mM NaCl, 2mM EDTA, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01 % Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the p
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 95 % as determined by reducing SDS-PAGE.

Background

Noggin is a secreted homodimeric glycoprotein that is an antagonist of bone morphogenetic proteins (BMPs). Mature Human Noggin contains an N-terminal acidic region; a central basic heparin-binding segment and a C-terminal cysteine-knot structure. Noggin is very highly conserved among vertebrates; such that mature human Noggin shares 99%; 99%; 98%; 97% and 89% aa sequence identity with mouse; rat bovine; equine and chicken Noggin; respectively. Secreted

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Noggin probably remains close to the cell surface due to its binding of heparin-containing proteoglycans. Noggin binds some BMPs such as BMP4 with high affinity and others such as BMP7 with lower affinity. It antagonizes BMP bioactivities by blocking epitopes on BMPs that are needed for binding to both type I and type II receptors. Noggin is expressed in defined areas of the adult central nervous system and peripheral tissues such as lung; skeletal muscle and skin. During culture of human embryonic stem cells (hESC) or neural stem cells under certain conditions; addition of Noggin to antagonize BMP activity may allow stem cells to proliferate while maintaining their undifferentiated state; or alternatively; to differentiate into dopaminergic neurons.

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