Datasheet

Cat. No. P1416

Recombinant Human Noggin, Insect Cells Derived

Information

Gene ID	9241
Accession #	Q13253
Alternate Names	
Source	Insect Cell
M.Wt	Approximately 23.0 kDa on SDS-PAGE under reducing conditions, containing 205 amino acids, and a molecular mass about 47.9 kDa homodimer under non-reducing conditions (Molecular size on SDS-PAGE will appear at approximately 50-80 kDa).
AA Sequence	QHYLHIRPAP SDNLPLVDLI EHPDPIFDPK EKDLNETLLR SLLGGHYDPG FMATSPPEDR PGGGGGAAGG AEDLAELDQL LRQRPSGAMP SEIKGLEFSE GLAQGKKQRL SKKLRRKLQM WLWSQTFCPV LYAWNDLGSR FWPRYVKVGS CFSKRSCSVP EGMVCKPSKS VHLTVLRWRC QRRGGQRCGW IPIQYPIISE CKCSC
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles - 12 months from date of receipt, -20 to -70 °C as supplied - 1 month, 2 to 8 °C under sterile conditions after reconstitution - 3 months, -20 to -70 °C under sterile conditions after reconstitution
Formulation	Lyophilized from a 0.2 μm filtered concentrated solution in PBS, pH7.4, 5% trehalose, 0.02%Tween-20.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in 10 mM HAc to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	Measured by its ability to inhibit BMP-4-induced alkaline phosphatase production by ATDC5 mouse chondrogenic cells. The ED for this effect is 0.04-0.2 μg/mL in the presence of 50 ng/mL of Recombinant Human BMP-4.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	5μg	100μg	500μg
Recombinant Human Noggin, Insect Cells Derived	5μg	100μg	500μg

Use a manual defrost freezer and avoid repeated freeze-thaw cycles
- 12 months from date of receipt, -20 to -70 °C as supplied
- 1 month, 2 to 8 °C under sterile conditions after reconstitution
- 3 months, -20 to -70 °C under sterile conditions after reconstitution

Quality Control

Purity	> 95 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 0.1 EU/μg of rHuNoggin, Insect Cell as determined by LAL method.

Description

Noggin encoded by the NOG gene, was first isolated from Xenopus, having the function of inducing secondary axis formation in frog embryos. It inhibits TGF-β family ligands and preventing them from binding to their corresponding receptors. Noggin was originally found as a BMP-4 antagonist, and then has been shown to modulate the activities of other BMPs (BMP-2, 7, 13 and 14). Additionally, it has pleiotropic effect, both in early development and later stages. The results of the mouse knockout of noggin suggest that it is involved in numerous developmental processes, such as neural tube fusion and joint formation. In recent report, proximal symphalangism (SYM1) and multiple synostoses syndrome (SYNS1) have relation with the mutant of evolutionarily conserved amino acid residues of Noggin. Mature human Noggin shares 99 %, 99 %, 98 %, 97 % and 89 % a.a. sequence identity with mouse, rat, bovine, equine and chicken Noggin, respectively.

Reference

1. Davis SWandCamper SA. 2007. Dev Biol, 305: 145-60
2. Zhu W, Kim J, Cheng C, et al. 2006. Bone, 39: 61-71
3. Oxley CD, Rashid R, Goudie DR, et al. 2008. Horm Res, 69: 221-6
4. Bayramov AV, Eroshkin FM, Martynova NY, et al. 2011. Development, 138: 5345-56
5. Secondini C, Wetterwald A, Schwaninger R, et al. 2011. PLoS One, 6: e16078.

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