

Recombinant Human Noggin

#R00185

Size: 5 µg/100 µg/500 µg

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.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

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.

AA Sequence

MQHYLHIRPAPSDNLPLVDLIEHPDPIFDPKEKDLNET
LLRSLLGGHYDPGFMATSPPEDRPGGGGGAAGGAE
DLAELDQLLRQRPSGAMPSEIKGLEFSEGLAQGKKQ
RLSKKLRRKLQMWLWSQTFPCPVLYAWNDLGSRFWP
RYVKVGCFSKRSCSVPEGMVCKPSKSVHDTVLRW
RCQRRGGQRCGWIPQIYPIISECKCSC

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in 10mM HCl 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.

Product Specification

Accession	Q13253
GeneID	9241
Species	Human
Source	Escherichia coli.
Molecular Weight	Approximately 46.3 kDa, non-disulfide-linked homodimer consisting of two 206 amino acid polypeptide chains.
Purity	> 95 % by SDS-PAGE and HPLC analyses.
Biological Activity	Fully biologically active when compared to standard. The ED ₅₀ as determined by inhibiting BMP-4-induced alkaline phosphatase production of murine ATDC5 cells is less than 3.0 ng/ml, corresponding to a specific activity of > 3.3 × 10 ⁵

	IU/mg in the presence of 5 ng/ml rHuBMP-4.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation	Lyophilized from a 0.2 μm filtered concentrated solution in 30 % acetonitrile, 0.1 % TFA.
Endotoxin	Less than 1 EU/μg of rHuNoggin as determined by LAL method.