

Noggin, Human

Cat. No.: Z02753-20

Size: 20.0 ug

Synonyms: NOGGIN, Human;

Description:

Noggin belongs to a group of diffusible proteins which bind to ligands of the TGF- β family and regulate their activity by inhibiting their access to signaling receptors. Noggin was originally identified as a BMP-4 antagonist whose action is critical for proper formation of the head and other dorsal structures. Consequently, Noggin has been shown to modulate the activities of other BMPs including BMP-2,-7,-13, and -14. Targeted deletion of Noggin in mice results in prenatal death and recessive phenotype displaying a severely malformed skeletal system. Conversely, transgenic mice over-expressing Noggin in mature osteoblasts display impaired osteoblastic differentiation, reduced bone formation, and severe osteoporosis.

Amino Acid Sequence:

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00001 MQHYLHIRPA PSDNLPLVDL IEHPDPIFDP KEKDLNETLL
00041 RSLGHHYDP GFMTATPPED RGGGGGAAG GAEDLAELDQ
00081 LLRQRPSGAM PSEIKGLEFS EGLAQKKQR LSKLRRKLQ
00121 MWLWSQTFCP VLYAWNDLGS RFWPRYKVG SCFSKRSCSV
00161 PEGMVCKPSK SVHLTVLRWR CRRGGQRCG WIPIQYPIIS
00201 ECKCSC
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Source: *E. coli*

Species: Human

Biological Activity: Fully biologically active when compared to standard. The ED₅₀ 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 $> 3.3 \times 10^5$ IU/mg in the presence of 5 ng/ml rHuBMP-4.

Molecular Weight: Approximately 46.3 kDa, non-disulfide-linked homodimer consisting of two 206 amino acid polypeptide chains.

Formulation: Lyophilized from a 0.2 μ m filtered concentrated solution in 30 % acetonitrile, 0.1 % TFA.

Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

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

Purity: > 95 % by SDS-PAGE and HPLC analyses.

Endotoxin Level: Less than 1 EU/ μ g of rHuNoggin as determined by LAL method.

Storage: This lyophilized preparation is stable at 2-8 °C, but should be kept at -20 °C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 °C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 °C to -70 °C. Avoid repeated freeze/thaw cycles.