Recombinant Human NOGGIN (rhNOGGIN)
Catalog Number: 108-09

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. The amino acid sequence of human noggin is highly homologous to that of *Xenopus*, rat and mouse.
Synonyms	SYM1, SYNS1, NOG
AA Sequence	MQHYLHIRPA PSDNLPLVDL IEHPDPIFDP KEKDLNETLL RSLLGGHYDP GFMATSPPED RPGGGGGAAG GAEDLAELDQ LLRQRPSGAM PSEIKGLEFS EGLAQGKKQR LSKKLRRKLQ MWLWSQTFCP VLYAWNDLGS FWPRYVKVGS CFSKRSCSVP EGMVCKPSKS VHLTVLRWRC QRRGGQRCGW IPIQYPIISE CKCSC
Source	*Escherichia coli*
Molecular Weight	Approximately 46.2 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. The ED_{50} is 0.05-0.08 μg/ml, as determined by its ability to inhibit 5ng/ml of BMP4-induced alkaline phosphatase production in ATDC-5 chondrogenic cells.
Physical Appearance	White lyophilized powder.
Formulation	Lyophilized from a 0.2μm filtered concentrated solution in 30% acetonitrile, 0.1% TFA.
Endotoxin	< 1EU/μg of growth factor as determined by LAL method.
Reconstitution	Reconstitute in 10mM HAc to a concentration of 0.1-1.0 mg/mL.
Storage	Store at -20°C after receiving. Upon reconstitution, store at 2-8°C for up to one week. For maximal stability, aliquot and store at -20°C. Avoid repeated freeze/ thaw cycles.
Usage	This product is for research use only. It is not approved for use in humans, animals, or *in vitro* diagnostic procedures.