# NOG
# Recombinant Human Noggin

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| **Catalog No.** | CRN601A | **Quantity:** | 5 µg |
| | CRN601B | | 20 µg |
| | CRN601C | | 1.0 mg |

**Alternate Names:** SYM1, SYNS1, symphalangism 1 (proximal)

**Description:** Recombinant Human Noggin is a non-disulfide-linked homodimer consisting of two 206 amino acid polypeptide chains.
Background: Noggin belongs to a group of diffusible proteins which bind to ligands of the TGF-G 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.

**Gene ID:** 9241

**Source:** *E. coli*

**Molecular Weight:** ~46.3 kDa

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

**Purity:** >95.0% by HPLC and SDS-PAGE

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

**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 > $3.3 \times 10^5$ IU/mg in the presence of 5 ng/ml rHuBMP-4.

**Amino Acid Sequence:** MQHYLHIRPA PSDNLPLVDL IEHPDPIFDP KEKDLNETLL RSLLGGHYDP GFMATSPPED RPGGGGGAAG GAEDLAELDQ LLRQRPSGAM PSEIKGLEFS EGLAQGKKQR LSKKLRRKLQ MWLWSQTFCP VLYAWNDLGS RFWPRYVKVG SCFSKRSCSV PEGMVCKPSK SVHLTVLRWR CQRRGGQRCG WIPIQYPIIS ECKCSC

**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.

**Storage & Stability:** The lyophilized protein is stable at 2-8°C. Upon receipt, store desiccated at -20°C. After 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 -80°C. For long term storage of reconstituted protein, it is recommended that a carrier protein such as 0.1% BSA or HSA be added. This depends on the particular application. **Avoid repeated freeze/thaw cycles.**

**NOT FOR HUMAN USE. FOR RESEARCH ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.**

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