# Recombinant human Noggin protein

Catalog Number: ATGP4020

## PRODUCT INFORMATION

**Expression system**
HEK293

**Domain**
28-232aa

**UniProt No.**
Q13253

**NCBI Accession No.**
NP_005441.1

**Alternative Names**
SYM1, SYNS1, SYNS1A, NOG, symphalangism 1, synostoses syndrome 1

## PRODUCT SPECIFICATION

**Molecular Weight**
23.8kDa (211aa)

**Concentration**
Batch dependent

**Formulation**
Liquid in. Phosphate-Buffered Saline (pH 7.4) containing 30% glycerol

**Purity**
> 95% by SDS - PAGE

**Endotoxin level**
< 1 EU per 1ug of protein (determined by LAL method)

**Biological Activity**
Measured by ability to inhibit BMP-4-induced alkaline phosphatase production by ATDC5 mouse chondrogenic cells in the presence of 50ng/ml of human BMP-4. The ED50 range ≤ 0.5 ug/ml.

**Tag**
His-Tag

**Application**
SDS-PAGE, Bioactivity

**Storage Condition**
Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

## BACKGROUND

# Recombinant human Noggin protein

Catalog Number: ATGP4020

## Description

NOG, also known as noggin, is a secreted protein that is involved in the development of many body tissues, including nerve tissue, muscles, and bones and is known to exert its effects by inhibiting the bone morphogenetic protein (BMP) -signaling pathway. It binds some BMPs such as BMP-4 with high affinity and others such as BMP-7 with lower affinity. This protein is an inhibitor of several bone morphogenetic proteins and cysteine-knot region of human Noggin are linked to multiple types of skeletal dysplasias that result in apical joint fusions. It also plays a key role in neural induction by inhibiting BMP4, along with other TGF-beta signaling inhibitors. Recombinant human Noggin, fused to His-tag at C-terminus, was expressed in HEK293 cell and purified by using conventional chromatography techniques.

## Amino acid Sequence

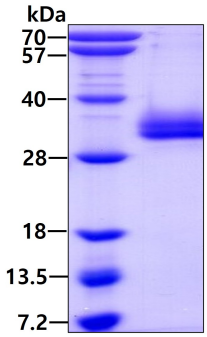
QHYLHIRPAP SDNLPLVDLI EHPDPIFDPK EKDLNETLLR SLLGGHYDPG FMATSPPEDR PGGGGGAAGG AEDLAELDQL LRQRPSGAMP SEIKGLEFSE GLAQGKKQRL SKKLRRKLQM WLWSQTFCPV LYAWNDLGSR FWPRYVKVGS CFSKRSCSVP EGMVCKPSKS VHLTVLRWRC QRRGGQRCGW IPIQYPIISE CKCSC<HHHHH H>

## General References

Zimmerman LB., et al, (1996) Cell. 86:599-606.
Groppe J., et al, (2002) Nature. 420:636-642.

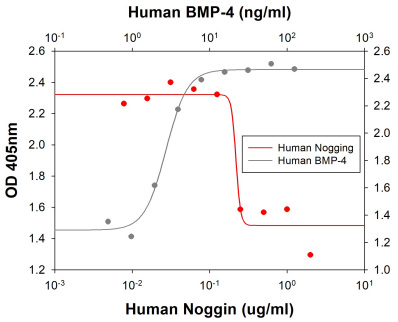
# DATA

## SDS-PAGE




3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain

## Biological Activity




Human Nogging inhibit alkaline phosphatase production in the ATDC5 mouse chondrogenic cells in the presence of 50ng/ml of human BMP-4. The ED50 range ≤ 0.5 ug/ml.