

## Noggin Protein, Human (HEK293)

Cat. No.:	HY-P70558
Synonyms:	Noggin; NOG
Species:	Human
Source:	HEK293
Accession:	Q13253 (Q28-C232)
Gene ID:	9241
Molecular Weight:	Approximately 28-32 kDa due to the glycosylation

### PROPERTIES

AA Sequence	<p>Q H Y L H I R P A P      S D N L P L V D L I      E H P D P I F D P K      E K D L N E T L L R</p> <p>S L L G G H Y D P G      F M A T S P P E D R      P G G G G G A A G G      A E D L A E L D Q L</p> <p>L R Q R P S G A M P      S E I K G L E F S E      G L A Q G K K Q R L      S K K L R R K L Q M</p> <p>W L W S Q T F C P V      L Y A W N D L G S R      F W P R Y V K V G S      C F S K R S C S V P</p> <p>E G M V C K P S K S      V H L T V L R W R C      Q R R G G Q R C G W      I P I Q Y P I I S E</p> <p>C K C S C</p>
Biological Activity	<p>1.Measured by its ability to inhibit BMP-4-induced alkaline phosphatase production by ATDC5 mouse chondrogenic cells.The IC<sub>50</sub> is &lt; 1.523 ng/mL, corresponding to a specific activity of &gt; 6.6×10<sup>5</sup> units/ mg.</p> <p>2.Measured by its ability to inhibit BMP-2-induced alkaline phosphatase production by ATDC5 mouse chondrogenic cells The ED<sub>50</sub> for this effect is &lt;1.1 µg/mL in the presence of 2000 ng/mL of Recombinant Human BMP-2.</p> <p>3.Measured by its ability to inhibit BMP-4-induced alkaline phosphatase production by ATDC5 mouse chondrogenic cells The ED<sub>50</sub> for this effect is &lt;2 ng/mL in the presence of 50 ng/mL of Recombinant Human BMP-4.</p>
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of 20 mM PB, 500 mM NaCl, 2 mM EDTA, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

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## Background

Noggin is a glycosylated cysteine-knot chemokine protein, which functions as an extracellular negative regulator of transforming growth factor (TGF) $\beta$  superfamily members. Alongside several other antagonists, Noggin blocks pluripotent bone morphogenetic protein (BMP) signaling that acts locally on target cells, affecting cell survival, proliferation, and differentiation. Noggin inhibits BMPs as a result of forming a neutralizing complex that prevents BMPs from binding to BMP receptor<sup>[1]</sup>.

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## REFERENCES

[1]. Kang HW, et al. In vitro and In vivo imaging of antivasculogenesis induced by Noggin protein expression in human venous endothelial cells. FASEB J. 2009;23(12):4126-4134.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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