Noggin Protein, Mouse (HEK293, His)

Cat. No.:	HY-P70785
Synonyms:	Noggin; Nog
Species:	Mouse
Source:	HEK293
Accession:	P97466 (Q28-C232)
Gene ID:	18121
Molecular Weight:	Approximately 30.0 kDa

PROPERTIES

AA Sequence	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 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 P A G G A E D L A E L D Q L 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 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 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 C K C S C
Biological Activity	Measured by its ability to inhibit BMP-4-induced alkaline phosphatase production by ATDC5 mouse chondrogenic cells. The ED_{50} for this effect is ≤0.1785 μg/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, 5 mM EDTA, 5% Trehalose, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
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

Background	Noggin is a vital protein involved in cartilage morphogenesis and joint formation, playing a crucial role in inhibiting bone morphogenetic proteins (BMP) signaling essential for the growth and patterning of the neural tube and somite. Acting as an inhibitor of BMP, Noggin is implicated in the regulation of chondrocyte differentiation through its interaction with growth and differentiation factor 5 (GDF5) and likely GDF6. Existing as a homodimer, Noggin directly interacts with GDF5, leading to

the inhibition of chondrocyte differentiation. These multifaceted functions underscore the importance of Noggin in embryonic development, particularly in the intricate processes of skeletal and neural tissue formation, and highlight its role as a key modulator of BMP signaling pathways (

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