

## Recombinant Human Noggin

Catalog #	EPT187
Expression Host	Human Cells
DESCRIPTION	Recombinant Human Noggin is produced by our
	Mammalian expression system and the target gene
	encoding Gln28-Cys232 is expressed.
Accession	Q13253
Synonyms	Noggin; NOG
Mol Mass	23 KDa
AP Mol Mass	25-33 KDa, reducing conditions
Purity	Greater than 95% as determined by reducing
	SDS-PAGE.
Endotoxin	Less than 0.01 EU/ $\mu$ g as determined by LAL test.
FORMULATION	Lyophilized from a 0.2 $\mu\text{m}$ filtered solution of 20mM
	PB, 500mM NaCl, 2mM EDTA, pH 7.4.
RECONSTITUTION	Always centrifuge tubes before opening.Do not mix by
	vortex or pipetting.
	It is not recommended to reconstitute to a

concentration less than 100 $\mu$ g/ml.



+86-27-59760950 ELKbio@ELKbiotech.com www.elkbiotech.com 23-2, No.388 Gaoxin 2nd Road,Wuhan East Lake Hi-tech Development Zone, Hubei , P.R.Q



Dissolve the lyophilized protein in distilled water. Please aliquot the reconstituted solution to minimize

freeze-thaw cycles.

SHIPPING The product is shipped at ambient temperature.Upon receipt, store it immediately at the temperature listed below.

STORAGELyophilized protein should be stored at < -20 ° C,<br/>though stable at room temperature for 3 weeks.<br/>Reconstituted protein solution can be stored at 4-7 °C<br/>for 2-7 days.

Aliquots of reconstituted samples are stable at < -20° C for 3 months.

BACKGROUND Noggin is a secreted homodimeric glycoprotein that is an antagonist of bone morphogenetic proteins (BMPs). Mature Human Noggin contains an N-terminal acidic region, central basic а heparin-binding segment and C-terminal а cysteine-knot structure. Noggin is very highly conserved among vertebrates, such that mature human Noggin shares 99%, 99%, 98%, 97% and 89% aa sequence identity with mouse, rat bovine, equine and chicken Noggin, respectively. Secreted Noggin



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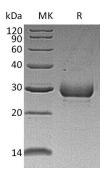
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probably remains close to the cell surface due to its binding of heparin-containing proteoglycans. Noggin binds some BMPs such as BMP4 with high affinity and others such as BMP7 with lower affinity. It antagonizes BMP bioactivities by blocking epitopes on BMPs that are needed for binding to both type I and type II receptors. Noggin is expressed in defined areas of the adult central nervous system and peripheral tissues such as lung, skeletal muscle and skin. During culture of human embryonic stem cells (hESC) or neural stem cells under certain conditions, addition of Noggin to antagonize **BMP** activity may allow stem cells to proliferate while maintaining their undifferentiated state, or alternatively, to differentiate into dopaminergic neurons.



## **SDS-PAGE**



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