



# Recombinant Human Noggin

<b>Catalog #</b>	EPT187
<b>Expression Host</b>	Human Cells
<b>DESCRIPTION</b>	Recombinant Human Noggin is produced by our Mammalian expression system and the target gene encoding Gln28-Cys232 is expressed.
<b>Accession</b>	Q13253
<b>Synonyms</b>	Noggin; NOG
<b>Mol Mass</b>	23 KDa
<b>AP Mol Mass</b>	25-33 KDa, reducing conditions
<b>Purity</b>	Greater than 95% as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	Less than 0.01 EU/ $\mu$ g as determined by LAL test.
<b>FORMULATION</b>	Lyophilized from a 0.2 $\mu$ m filtered solution of 20mM PB, 500mM NaCl, 2mM EDTA, pH 7.4.
<b>RECONSTITUTION</b>	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.





## SHIPPING

Dissolve the lyophilized protein in distilled water.

Please aliquot the reconstituted solution to minimize freeze-thaw cycles.

The product is shipped at ambient temperature.

Upon receipt, store it immediately at the temperature listed below.

## STORAGE

Lyophilized protein should be stored at  $< -20^{\circ}\text{C}$ , though stable at room temperature for 3 weeks.

Reconstituted protein solution can be stored at  $4-7^{\circ}\text{C}$  for 2-7 days.

Aliquots of reconstituted samples are stable at  $< -20^{\circ}\text{C}$  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, a central basic heparin-binding segment and a C-terminal 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





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

