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## Product Datasheet

### Recombinant Human Noggin EBT-EPT187

Article Name	Recombinant Human Noggin
Biozol Catalog Number	EBT-EPT187
Supplier Catalog Number	EPT187
Alternative Catalog Number	EBT-EPT187-50
Manufacturer	ELK Biotechnology
Category	Proteine/Peptide
Product Description	Recombinant Human Noggin is produced by our Mammalian expression system and the target gene encoding Gln28-Cys232 is expressed....
Molecular Weight	Molecular weight: 23 KDa. Apparent molecular weight: 25-33 KDa, reducing conditions
UniProt	<a href="#">Q13253</a>
Purity	Greater than 95% as determined by reducing SDS-PAGE.

#### Application Notes

Redissolve: Always centrifuge tubes before opening. Do not mix by vortex or pipetting. It is not recommended to reconstitute to a concentration less than 100 µg/ml. Dissolve the lyophilized protein in distilled water. Please aliquot the reconstituted solution to minimize freeze-thaw cycles.. Endotoxin: Less than 0.01 EU/µg as determined by LAL test. Biological activity: Measured by its ability to inhibit BMP-2-induced alkaline phosphatase production by ATDC5 mouse chondrogenic cells. The ED50 for this effect is 0.2 µg/mL in the presence of 2000 ng/mL of Recombinant Human BMP-2(C012).

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.