



## Noggin/NOG

E21-028

**Catalog Number:**E21-028

**Amount:**10ug

**Altername:**Noggin; Nog

**Storage/Stability:**Lyophilized protein should be stored at  $< -20^{\circ}\text{C}$ . Aliquots of reconstituted samples are stable at  $-20^{\circ}\text{C}$  for 1 year.

**Background:**Noggin is a secreted homodimeric glycoprotein that is an antagonist of bone morphogenetic proteins (BMPs). Mouse Noggin cDNA encodes a 232 amino acid (aa) residue precursor protein with 19 aa residue putative signal peptide that is cleaved to generate the 213 aa residue mature protein which is secreted as a homodimeric glycoprotein. 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.

**Species:**Mouse

**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  $\mu\text{g/ml}$ .

Dissolve the lyophilized protein in ddH<sub>2</sub>O.

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

**Endotoxin:**Less than 0.1 ng/ $\mu\text{g}$  (1 IEU/ $\mu\text{g}$ ) as determined by LAL test.

**Purity:**Greater than 95% as determined by reducing SDS-PAGE.

**Description:**Recombinant Mouse Noggin is produced by our Mammalian expression system and the target gene encoding Gln28-Cys232 is expressed with a 6His tag at the C-terminus.

**Product State:**Lyophilized

**Ship Description:**The product is shipped at ambient temperature.

**Formulation:**Lyophilized from a 0.2  $\mu\text{m}$  filtered solution of PBS, pH7.4.

**Expression system:**Human Cells

**For Research Use Only**

