

## Recombinant human Noggin protein (HEK293)

Catalog Number: bs-43122P

Concentration: >0.5 mg/ml

AA Seq: 28-232/232

Predicted MW: 23

Tags: Tag Free

Activity: Not tested

Endotoxin: Not analyzed

Purity: >90% as determined by SDS PAGE

Purification: AC

Form: Lyophilized or Liquid

Storage: PBS (pH7.4).

Stored at -70°C or -20°C. Avoid repeated freeze/thaw cycles.

**Background:** Noggin is a secreted protein involved at multiple stages of vertebrate embryonic development including neural induction and is known to exert its effects by inhibiting the bone morphogenetic protein (BMP)-signaling pathway. It binds several BMPs with very high (picomolar) affinities, with a marked preference for BMP2 and BMP4 over BMP7. By binding tightly to BMPs, Noggin prevents BMPs from binding their receptors. Noggin binds the bone morphogenetic proteins (BMP) such as BMP-4 and BMP-7, and inhibits BMP signaling by blocking the molecular interfaces of the binding epitopes for both type I and type II receptors. Interaction of BMP and its antagonist Noggin governs various developmental and cellular processes, including embryonic dorsal-ventral axis, induction of neural tissue, formation of joints in the skeletal system and neurogenesis in the adult brain. Noggin plays a key role in neural induction by inhibiting BMP4, along with other TGF- $\beta$  signaling inhibitors such as chordin and follistatin. Mouse knockout experiments have demonstrated that noggin also plays a crucial role in bone development, joint formation, and neural tube fusion.

### VALIDATION IMAGES



The purity of the protein is greater than 80% as

determined by reducing SDS-PAGE.