

**Animal-Free Recombinant Murine NOGGIN**  
**Catalog # PBG10571****Specification**

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**Animal-Free Recombinant Murine NOGGIN - Product Information****Animal-Free Recombinant Murine NOGGIN - Additional Information****Description**

Noggin belongs to a group of diffusible proteins which bind to ligands of the TGF- $\beta$  family and regulate their activity by inhibiting their access to signaling receptors. The interplay between TGF- $\beta$  ligands and their natural antagonists has major biological significance during development processes, in which cellular response can vary considerably depending upon the local concentration of the signaling molecule. Noggin was originally identified as a BMP-4 antagonist whose action is critical for proper formation of the head and other dorsal structures. Consequently, Noggin has been shown to modulate the activities of other BMPs including BMP-2, -7, -13, and -14. Targeted deletion of Noggin in mice results in prenatal death and recessive phenotype displaying a severely malformed skeletal system. Conversely, transgenic mice over-expressing Noggin in mature osteoblasts display impaired osteoblastic differentiation, reduced bone formation, and severe osteoporosis. Recombinant murine Noggin is a 46.4 kDa disulfide-linked homodimer consisting of two 206 amino acid polypeptide chains.

**Biological Activity**

Determined by its ability to inhibit 5.0 ng/ml of BMP-4 induced alkaline phosphatase production by ATDC5 chondrogenic cells. The expected  $ED_{50}$  for this effect is 1.0-2.0 ng/ml of Noggin.

**Authenticity**

Verified by N-terminal and Mass Spectrometry analyses (when applicable).

**Endotoxin**

Endotoxin level is  $<0.1$  ng/  $\mu$ g of protein ( $<1$ EU/  $\mu$ g).

**Protein Content**

Verified by UV Spectroscopy and/or SDS-PAGE gel.

**Storage**

-20°C

**Precautions**

Animal-Free Recombinant Murine NOGGIN is for research use only and not for use in diagnostic or therapeutic procedures.

**Animal-Free Recombinant Murine NOGGIN - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)

- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## **Animal-Free Recombinant Murine NOGGIN - Images**