

DESCRIPTION

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|-------------------------------------|---|-----------------|------------|
| Source | Mouse myeloma cell line, NS0-derived mouse Noggin protein | | |
| | Mouse Noggin (Leu20-Cys232) Accession # P97466 | IEGRGGSGGGSGGGG | 10-His tag |
| | N-terminus | | C-terminus |
| N-terminal Sequence Analysis | Leu20 | | |
| Structure / Form | Disulfide-linked homodimer | | |
| Predicted Molecular Mass | 26 kDa (monomer) | | |

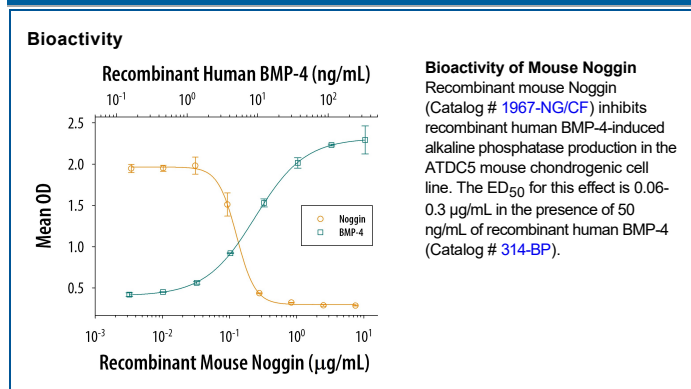
SPECIFICATIONS

| | |
|------------------------|---|
| SDS-PAGE | 30-35 kDa, reducing conditions |
| Activity | Measured by its ability to inhibit BMP-4-induced alkaline phosphatase production by ATDC5 mouse chondrogenic cells. The ED ₅₀ for this effect is 0.06-0.3 µg/mL in the presence of 50 ng/mL of Recombinant Human BMP-4 (Catalog # 314-BP). |
| Endotoxin Level | <0.10 EU per 1 µg of the protein by the LAL method. |
| Purity | >90%, by SDS-PAGE under reducing conditions and visualized by silver stain. |
| Formulation | Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details. |

PREPARATION AND STORAGE

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|--------------------------------|---|
| Reconstitution | Reconstitute at 100 µg/mL in sterile PBS. |
| Shipping | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. |
| Stability & Storage | <p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution. |

DATA



BACKGROUND

Noggin was originally cloned based on its dorsalizing activity in *Xenopus* embryos. Mammalian Noggins were subsequently identified and cloned from human, mouse and rat cDNA libraries. 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. Noggin is a highly conserved molecule. Mature mouse Noggin shares 99% and 83% aa sequence identity with human and *Xenopus* Noggin, respectively. Noggin has a complex pattern of expression during embryogenesis. In the adult, Noggin is expressed in the central nervous system and in several adult peripheral tissues such as lung, skeletal muscle and skin. Noggin has been shown to be a high-affinity BMP (bone morphogenetic protein) binding protein that antagonizes BMP bioactivities.

References:

1. Smith, W.C. and R.M. Harland (1992) *Cell* **70**:829.
2. Valenzuela, D.M. *et al.* (1995) *J. Neurosci.* **15**:6077.
3. Brunet, L.J. *et al.* (1998) *Science* **280**:1455.