Recombinant Mouse Chordin

Catalog Number: 758-CN/CF

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived

Mouse Chordin (Thr27-Ser948) Accession # Q9Z0E2	IEGR	GGGSGGGSGGGS	10-His tag

N-terminus C-terminus

N-terminal Sequence Analysis Thr27

Predicted Molecular Mass 101.5 kDa

SPECIFICATIONS

SDS-PAGE 100-115 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 2-6 µg/mL in the presence of 30 ng/mL of Recombinant Human BMP-4 (Catalog # 314-BP) and 1 µg/mL of recombinant mouse TSG.

Endotoxin Level <1.0 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

Reconstitution Reconstitute at 200 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 **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 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.

BACKGROUND

Chordin is a secreted glycoprotein that regulates dorsoventral patterning during gastrulation. Chordin functions as a bone morphogenetic protein (BMP) antagonist that blocks their ventralizing activity by binding to the BMPs and inhibiting their interaction with their receptors. Mouse Chordin cDNA encodes a 948 amino acid (aa) residue precursor protein with a putative 26 aa residue signal peptide. Chordin contains four internal cysteine-rich repeats (CRs) that are conserved in the spacing of their ten cysteine residues. The CRs of chordin, especially CR1 and CR3, have been shown to be the functional domains for BMP binding. These conserved CRs are present in an expanding family of secreted molecules that antagonize BMP signaling. Xolloid (an extracellular zinc metalloproteinase) can cleave chordin at two specific sites resulting in chordin fragments with lower BMP-affinity. Cleavage of the chordin/BMP complex can reverse the BMP antagonist activity of chordin. Mouse chordin is expressed at high levels in 7 day postcoitum mouse embryos. Chordin expression is also detected in multiple fetal and adult tissues, most notably liver and cerebellum, suggesting additional roles for chordin in organogenesis and homeostasis.

References:

1. De Robertis, E.M. and Y. Sasai (1996) Nature **380**:37.
2. Larrain, J. *et al.* (2000) Development **127**:821.
3. Coffinier, C. *et al.* (2001) Mech. Dev. **100**:119.

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