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BMP 7 Human, CHO

Description:N-TERMINAL---Human BMP-2 (Met 1 Arg 282) Human BMP-7 (Ser 293 Arg 431)---C-TERMINAL. The DNA sequence encoding the human BMP-2 signal peptide and propeptide (1~282 amino acid) fused to the human rhBMP-7 mature chain (293~431 amino acid) was expressed in a Chinese hamster ovary cell line. The mature recombinant BMP-7 generated by the proteolytic removal of the signal peptide and propetide contains 139 amino acid residues. The glycosylation of BMP-7 increases the molecular mass and the glycosylated proteins migrate as 25 ~ 40 kDa in SDS-PAGE under non-reducing conditions. BMP-7 is purified by proprietary chromatographic techniques.

Synonyms: Osteogenic Protein 1, BMP-7.

Source: Chinese Hamster Ovarian Cells.

Purity: Greater than 97.0% as determined by:(a) Analysis by RP-HPLC.(b) Analysis by SDS-PAGE.

Formulation:
BMP-7 was lyophilized from a concentrated (1mg/ml) sterile solution containing 1% sucrose, 1.2% mannitol, 20mM glycine, and 0.05% tween 20 pH-4.

Stability:
Lyophilized BMP-7 althoμgh stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution BMP 7 Human should be stored at 4°C between 2-7 days and for future use below -18°C.For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).Please prevent freeze-thaw cycles.

Usage:
NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drμgs, agricultural or pesticidal products, food additives or household chemicals.

Solubility:
It is recommended to reconstitute the lyophilized Bone Morphogenetic Protein-7 in 1ml sterile/ endotoxin free water.

Introduction:
The bone morphogenetic proteins (BMPs) are a family of secreted signaling molecules that can induce ectopic bone growth. Many BMPs are part of the transforming growth factor-beta (TGFB) superfamily. BMPs were originally identified by an ability of demineralized bone extract to induce endochondral osteogenesis in vivo in an extraskeletal site. Based on its expression early in embryogenesis, the BMP encoded by this gene has a proposed role in early development. In addition, the fact that this BMP is closely related to BMP5 and BMP7 has lead to speculation of possible bone inductive activity.

Biological Activity:
Measured in alkaline phosphatase activity assay using MC3T3-E1 cells. The ED50 for this effect is <100ng/ml, corresponding to a Specific Activity of 10,000IU/mg.

References:

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1.Title:Bone morphogenetic protein 7 induces mesenchymal-to-epithelial transition in melanoma cells, leading to inhibition of metastasis.Publication:Article first published online: 30 JUL 2009 DOI:10.1111/j.1349-7006.2009.01301.x © 2009 Japanese Cancer Association.Link:http://onlinelibrary.wiley.com/doi/10.1111/j.1349-7006.2009.01301.x/full2.Title:In Vivo Degradation of a Novel Poly(-Caprolactone) Invertebral Cage for Anterior Cervical Discectomy and Fusion in a Porcine Model.Publication:Tissue Engineering and Regenerative Medicine International Society EU Meeting -2010Galway, IrelandLink:http://64.130.18.83/docs/eu10_abstracts/TERMIS2010_0708.pdf3.Title:Pretreatment With Bone Morphogenetic Protein-7 (Bmp-7) Mimics Ischemia Preconditioning Following Intestinal Ischemia/Reperfusion Injury in the Intestine and Liver.Publication:November 2008 - Volume 30 - Issue 5 - pp 532-536 doi: 10.1097/SHK.0b013e31816f20f1 Basic Science Aspects.Link:http://journals.lww.com/shockjournal/Abstract/2008/11000/Pretreatment_With_Bone_Morphogenetic_Protein_7.8.aspx

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