

# Bone Morphogenetic Protein-7

Human, Recombinant (rHuBMP-7)

Expressed in *E. coli*

Cat. No. CRP0890

Lot. No. (See product label)

## PRODUCT INFORMATION

**Description:** Human BMP-7 is one of at least 15 structurally and functionally related BMPs, which are members of the transforming growth factor  $\beta$  (TGF- $\beta$ ) superfamily. BMPs were originally identified as protein regulators of cartilage and bone formation. However, they have since been shown to be involved in embryogenesis and morphogenesis of various tissues and organs. BMPs have also been shown to regulate the growth, differentiation, chemotaxis and apoptosis of various cell types, including mesenchymal cells, epithelial cells, hematopoietic cells and neuronal cells. BMP-7 is synthesized as large precursor molecules which are cleaved by proteolytic enzymes. The active form can consist of a dimer of two identical proteins or a heterodimer of two related bone morphogenetic proteins.

**Amino-Acid Sequence:** 139 aa, non-glycosylated.

**M. W. :** 15,679Da

**Recombinant:** Expressed in *E. coli*.

**Purity:** >95% as determined by SDS-PAGE and HPLC.

**Physical Appearance:** Sterile Filtered White lyophilized (freeze-dried) powder.

**Formulation:** Lyophilized from a 0.2 $\mu$ m filtered concentrated (1mg/ml) solution in PBS, pH 7.4.

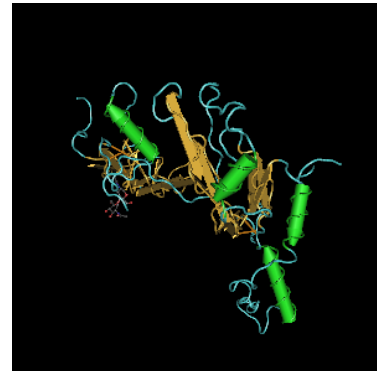
**Endotoxin:** Less than 1EU/ $\mu$ g of rHuBMP-7 as determined by LAL method.

**Reconstitution:** We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at  $\leq 20^{\circ}\text{C}$ . Further dilutions should be made in appropriate buffered solutions.

**Storage:** This lyophilized preparation is stable at 2-8 $^{\circ}\text{C}$ , but should be kept at -20 $^{\circ}\text{C}$  for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 $^{\circ}\text{C}$ . For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 $^{\circ}\text{C}$  to -70 $^{\circ}\text{C}$ . Avoid repeated freeze/thaw cycles.

**Applications:** 1. Molecular standard (Western, ELISA) in studying secreted BMP-7; 2. Preparing antibodies for BMP-7 monomer; 3. Molecule standard in detecting secreted BMP-7 in reduced SDS-PAGE.

## FOR RESEARCH USE ONLY



Crystal Structure Of Bone Morphogenetic Protein-7 (Bmp-7) In Complex With The Secreted Antagonist Noggin.

## GENE INFORMATION

**Gene Name:** [BMP7](#)

**Synonyms:** OP-1;OP1; Osteogenic protein 1; OTTHUMP00000031357; Bone morphogenetic protein 7 precursor; Eptotermin alfa

**mRNA Refseq:** [NM\\_001719](#)

**Protein Refseq:** [NP\\_001710](#)

**MIM:** [112267](#)

**GeneID:** [655](#)

**UniProt ID:** [P18075](#)

**Chromosome Location:** 20p13

**Pathway:** Cytokine-cytokine receptor interaction; Hedgehog signaling pathway;TGF-beta signaling pathway

**Function:** cytokine activity; growth factor activity; protein binding

## REFERENCES

1. Celeste, A., et al., Identification of transforming growth factor  $\beta$  family members presenting bone-inductive protein purified from bovine bone. Proc. Natl. Acad. Sci., **87**, 9843-9847 (1990).
2. Hogan, B.L.M., Bone morphogenetic proteins – multifunctional regulators of vertebrate development. Genes Dev., **10**, 1580-1594 (1996).
3. Reddi, A.H., Role of morphogenetic proteins in skeletal tissue engineering and regeneration. Nature Biotechnol., **16**, 247-252 (1998).

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