

## BMP-4, Human

**Cat. No.:** Z02750-10

**Size:** 10.0 ug

**Synonyms:** Bone Morphogenetic Protein-4 (BMP-4), Human;

**Description:**

Human BMP-4 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-4 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:**

```
00001 MSPKHHSQRA RKKNKNCRRH SLYVDFSDVG WNDWIVAPPG  
00041 YQAFYCHGDC PFPLADHLNS TNHAIIVQTLV NSVNSSIPKA  
00081 CCVPTELSAI SMLYLDEYDK VVLKQYQEMV VEGCGCR
```

**Source:** *E. coli*

**Species:** Human

**Molecular Weight:** Approximately 13.3 kDa, a monomeric, non-glycosylated polypeptide chain containing 117 amino acids.

**Formulation:** Lyophilized from a 0.2  $\mu$ m filtered concentrated solution in 50 mM Na<sub>2</sub>CO<sub>3</sub>, 5 mM DTT, pH 11.0.

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

**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 < -20 °C. Further dilutions should be made in appropriate buffered solutions.

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

**Endotoxin Level:** Less than 0.2EU/ug of rHuBMP-4 as determined by LAL method.

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