

## Background:

Human Bone Morphogenetic Protein-4 (BMP4) 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.

## Source:

Recombinant Human BMP4 is expressed from Escherichia coli. It contains AA Lys 303 - Arg 408. Predicted molecular mass 14.7 kDa. This protein carries a polyhistidine tag at the N-terminus.

**His<sub>6</sub> TEV BMP-4(Lys 303 - Arg 408)**

## Endotoxin:

Less than 1.0 EU per  $\mu$ g by the LAL method.

## AA Sequence:

MSPKHHSQRAR KKNKNCRRHS LYVDFSDVGW NDWIVAPPGY QAFYCHGDCP FPLADHLNST NHAIVQTLVN SVNSSIPKAC  
CVPTELSAIS MLYLDEYDKV VLKQYQEMVV EGCRCR

## Purity:

Purity >88% as determined by SDS-PAGE.

## Formulation:

Lyophilized from 0.22  $\mu$ m filtered solution in PBS, pH7.4. Normally trehalose is added as protectant before lyophilization. Contact us for customized product form or formulation.

## Reconstitution

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.

## Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

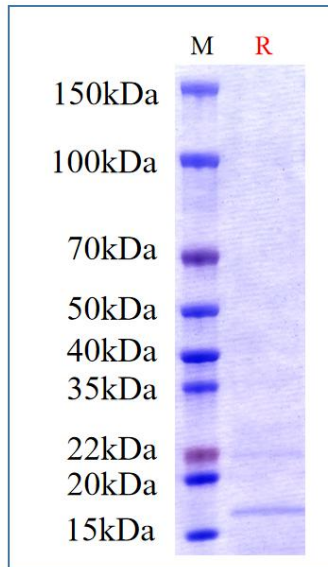
**Please avoid repeated freeze-thaw cycles.**

This product is stable after storage at:

-20°C to -70°C for 12 months in lyophilized state;

-70°C for 3 months under sterile conditions after reconstitution.

## SDS-PAGE



Human BMP4, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 88%.