

# Human / Mouse / Rat / Rhesus / Canine BMP-2 / BMP2A Protein

Catalog Number: 10426-HNAE



**Sino Biological Inc.**  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

BMP2, BMP2A

### Protein Construction:

A DNA sequence encoding the mature form of human BMP2 (NP\_001191.1) (Gln283-Arg396) was expressed. The mature form sequences of human, mouse, rat, rhesus and canine BMP2 are identical.

**Source:** Human

**Expression Host:** E. coli

## QC Testing

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

### Bio-Activity:

**Measured by its ability to induce alkaline phosphatase production by MC3T3-E1 mouse osteoblastic cells. The ED50 for this effect is typically 0.5-2 µg/ml.**

### Endotoxin:

Please contact us for more information.

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Met

### Molecular Mass:

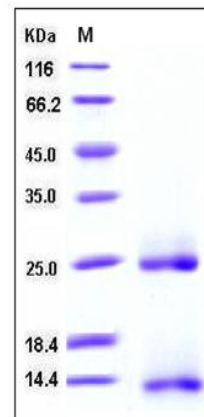
The recombinant human BMP2 monomer consists of 115 amino acids and has a predicted molecular mass of 13 kDa.

### Formulation:

Lyophilized from sterile 30 % CAN, 0.1 % TFA, pH 2.9.

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## SDS-PAGE:



## Usage Guide

### Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## Protein Description

Bone morphogenetic protein 2 (BMP2) is a member of the BMP subgroup belonging to the transforming growth factor (TGF)-beta superfamily. The mature BMP2 acts as disulfide-linked homodimers and heterodimers with BMP-7 after proteolytic removal of propeptide. BMP2 is capable of inducing the formation of cartilage and bone but are now regarded as multifunctional cytokines. It binds heterodimeric receptor complexes composed of a type I receptor and a type II receptor, and transduces the related signals via the down-stream molecules, such as the PI3 kinase, Smads, STATs, etc. BMP2 has been demonstrated to potently induce osteoblast differentiation in a variety of cell types, and induce apoptosis in human myeloma cell lines as a novel function. In addition, recent studies have revealed that osteoblast-derived BMP2 enhances the migration of prostate cancer cells. rhBMP2 can be utilized in various therapeutic interventions such as bony defects, delayed union, non-union fractures and osteoporosis.

## References

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5. Ghosh-Choudhury, N. et al., 2002, J. Biol. Chem. 277: 33361-33368.
6. Hallahan, A.R. et al., 2003, Nat. Med. 9: 1033-1038.

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