

# Recombinant Human Bone Morphogenetic Protein 2

Human, Recombinant (BMP2)

Expressed in *E. coli*

Cat. No. CRP0801

Lot. No. (See product label)

## PRODUCT INFORMATION

**Description:** Bone morphogenetic protein 2 (BMP-2) is a protein that belongs to the TGF- $\beta$  superfamily of proteins. It, like other bone morphogenetic proteins, plays an important role in the development of bone and cartilage. It is involved in the Hedgehog pathway, TGF-beta signaling pathway, and the Cytokine-cytokine receptor interaction. It is involved also in cardiac cell differentiation and epithelial to mesenchymal transition.

**Amino-Acid Sequence:** 115 aa (The sequence of the first five N-terminal amino acids was determined and was found to be Met-Gln-Ala-Lys-His.), non-glycosylated

**M. W. :** 26,018 Da

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

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

**Formulation:** Lyophilized from a concentrated (1mg/ml) sterile solution containing 10mM sodium citrate pH=3.5.

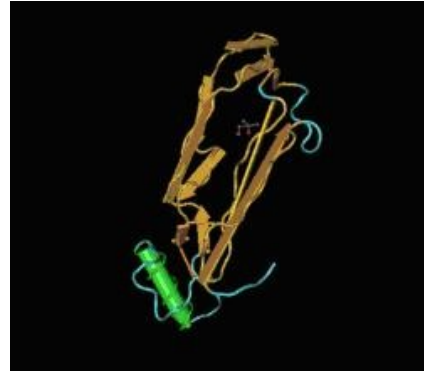
**Specific Activity:** BMP-2 is fully biologically active when compared to standard. The ED50 as determined by the cytotoxicity of MC3T3-E1 cells is less than 50 ng/ml, corresponding to a specific activity of  $2.0 \times 10^4$  IU/mg.

**Endotoxin:** Less than 0.1ng/ $\mu$ g (1IEU/ $\mu$ g) of Bone Morphogenetic protein-2 .

**Reconstitution:** It is recommended to reconstitute the lyophilized rHuBMP2 in sterile 20mM Acetic acid not less than 100 $\mu$ g/ml, which can then be further diluted to other aqueous solutions.

**Storage:** Lyophilized BMP2 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution BMP2 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). Aliquot to avoid repeated freeze-thaw cycles.

## FOR RESEARCH USE ONLY



[PDB](#) rendering based on 3bmp.

## GENE INFORMATION

**Gene Name:** [BMP2](#)

**Synonyms:** BMP2A; BMP-2; Bone morphogenetic protein 2 precursor; bone morphogenetic protein 5; BMP-2A; OT-THUMP00000016650; BMP2.

**mRNA Refseq:** [NM\\_001200.2](#)

**Protein Refseq:** [NP\\_001191.1](#)

**MIM:** [112261](#)

**GeneID:** [650](#)

**UniProt ID:** P12643

**Chromosome Location:** 20p12

**Pathway:** BMP signaling pathway; Basal cell carcinoma; Cytokine-cytokine receptor interaction; Hedgehog signaling pathway; TGF-beta signaling pathway

**Function:** cytokine activity, growth factor activity, specific transcriptional repressor activity

## REFERENCES

- 1.Furuta Y, et al.Bone morphogenetic proteins (BMPs) as regulators of dorsal forebrain development. Development. 1997 Jun;124(11):2203-2212
- 2.Tsumaki N, et al.Bone morphogenetic protein signals are required for cartilage formation and differently regulate joint development during skeletogenesis. J Bone Miner Res. 2002 May;17(5):898-906
- 3.Wang EA, et al.Recombinant human bone morphogenetic protein induces bone formation. Proc Natl Acad Sci U S A. 1990 Mar;87(6):2220-2224

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