

# Recombinant Human Bone Morphogenetic Protein -2 (BMP-2)

## Certificate of Analysis and Data Sheet

➤ <b>Source:</b> E.Coli	➤ <b>Catalog No.</b> CTK-261
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### ➤ **Background :**

Belongs to the Bone-growth regulatory factors that are members of the transforming growth factor-beta (TGF-beta) superfamily of proteins. They are 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.

### ➤ **Description :**

Recombinant Human Bone Morphogenetic protein-2 produced in E.Coli is a homodimeric, non-glycosylated, Polypeptide chain containing 115 amino acids and having a molecular mass of 26018 Dalton.  
BMP-2 is purified by proprietary chromatographic techniques.

### ➤ **Physical Appearance:**

Sterile Filtered White Lyophilized (freeze-dried) powder.

### ➤ **Formulation:**

BMP-2 was lyophilized from a concentrated (1mg/ml) sterile solution containing 10mM sodium citrate pH=3.5.

### ➤ **Solubility:**

It is recommended to reconstitute the lyophilized BMP-2 in sterile 18MΩ-cm H<sub>2</sub>O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

### ➤ **Stability:**

Lyophilized BMP-2 although stable at room temperature for 3 weeks, should be stored desiccated below -18 C. Upon reconstitution BMP-2 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).

**Please avoid freeze-thaw cycles.**

### ➤ **Purity:**

Greater than 95.0% as determined by:

(a) Analysis by RP-HPLC.

(b) Anion-exchange FPLC.

(c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

➤ **Amino acid sequence:**

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Gln-Ala-Lys-His.

➤ **Dimers and aggregates:**

Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

➤ **Biological Activity:**

This BMP-2 is fully biologically active when compared to standard. The ED50 as determined by the cytolysis of MC3T3-E1 cells is less than 50 ng/ml.

➤ **Endotoxin:**

Less than 0.1 ng/μg (IEU/μg) of Bone Morphogenetic protein-2 .

➤ **Protein content:**

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 1.4 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
2. Analysis by RP-HPLC, using a standard solution of BMP-2 as a Reference Standard.

➤ **Usage:**

This material is offered for research, laboratory or further evaluation purposes.