



11 Park Drive, Suite 12  
Boston, MA 02215

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

### ORDERING INFORMATION

Catalog No: rAP-0052;  
Size: 2 µg; 10 µg  
Storage: <- 20° C

### Synonyms:

BMP-2, BMP2A.

### Introduction:

BMP2 belongs to the transforming growth factor-beta (TGFB) superfamily. Bone morphogenetic protein induces bone formation. BMP2 is a candidate gene for the autosomal dominant disease of fibrodysplasia (myositis) ossificans progressiva.

### Description:

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

### Source:

*Escherichia Coli.*

### Physical Appearance:

Sterile Filtered White Lyophilized (freeze-dried) powder.

### Formulation:

BMP-2 was lyophilized from a concentrated (1mg/ml) sterile solution containing 20mM NaAc pH=4.

### Solubility:

It is recommended to reconstitute the lyophilized Bone Morphogenetic Protein-2 in sterile 20mM AcOH (acetic Acid) not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

### Stability:

Lyophilized Bone Morphogenetic Protein-2 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).

**Please prevent freeze-thaw cycles.**

### Purity:

Greater than 95.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

### 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.

### Biological Activity:

1. The ED50 as determined by the cytolysis of MC3T3-E1 cells is < 50 ng/ml.

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2. When implanted in the mouse thighbone muscle and grow for 14 days, Muscle tissue was harvested and examined biochemically for calcium uptake. Our unit defined as 1 microgram calcium absorbed. The specific activity is more than 1000 Units/mg.

3. The activity of BMP-2 was tested using alkaline phosphatase, the activity in mouse muscle myoblast C2C12 cell line was found to be  $1 \times 10^5$  U/mg protein.

4. The ectopic osteogenesis capacity is 1000mg fresh bone per 1mg of BMP-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:**

Angio-Proteomie's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

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