

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

Synonyms: BMP2A.

Introduction: BMPs (Bone Morphogenetic Proteins) belong to the TGF-beta superfamily of structurally related signaling proteins. BMP-2 is a potent osteoinductive cytokine, capable of inducing bone and cartilage formation in association with osteoconductive carriers such as collagen and synthetic hydroxyapatite. In addition to its osteogenic activity, BMP-2 plays an important role in cardiac morphogenesis and is expressed in a variety of tissues including lung, spleen, brain, liver, prostate ovary and small intestine. BMP-2 regulates similarly to its nearest homologue BMP-4 diverse fundamental processes during embryonic development: BMP-2 and other BMP proteins have great potential for medical therapeutic application, in particular because they allow or at least accelerate the ossification of extensive bone lesions. BMP-2 lacks the natural N-terminus which results in a 15-20 fold increase of specific activity. BMP-2 is a heparin binding protein.

Description: Recombinant human Bone Morphogenetic Protein-2 (BMP-2) is a disulfide-bonded homodimeric, non-glycosylated protein consisting of two 115 amino acid polypeptide chains with an apparent molecular weight of 26 kDa. The human BMP-2 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilised from a 0.22 µm filtered solution in 25 mM sodium acetate, pH 4.0
The aliquots of 1 µg and 2 µg contain Trehalose 5% (w/vol) for better recovery

Solubility: The lyophilised BMP-2 is soluble in distilled water and most aqueous buffer at concentrations greater than 1 mg/ml when the pH is below 6.0. Above pH 6.0 the solubility is low, but could be increased by addition of 1M NaCl or 30% 2 propanol.

Stability: Lyophilized rh BMP-2 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rh 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% HSS or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE silver stained gel.

Biological Activity: Measured by the ability of BMP-2 to induce alkaline phosphatase production by C2C12 myogenic cell the specific activity is ~ 2.5x 10³ units/mg

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method

This material is offered for **research use only**. Not for use in human. For in vitro use only. ImmunoTools will not be held responsible for patent infringement or other violations that may occur with the use of our products.

<i>small</i>	2 µg	Cat.N°	11343272
<i>medium</i>	10 µg	Cat.N°	11343273
<i>large</i>	50 µg	Cat.N°	11343275
<i>x-large</i>	250 µg	Cat.N°	11343277
<i>xx-large</i>	1000 µg	Cat.N°	11343278

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