

Human BMP-2

Synonyms: Bone morphogenetic protein 2, BDA2, BMP2A, bone morphogenetic protein 4, ZYME, BMP2B, OFC11, BMP2B1, MCOPS6

PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING

Size	Order #	Lot #	Expiry Date
5 µg	1195.950.005		
10 µg	1195.950.010		
50 µg	1195.950.050		
100 µg	1195.950.100		
250 µg	1195.950.250		
500 µg	1195.950.500		
1 mg	1195.950.199		

Please enquire for bulk quantities and other vial sizes

Description

Recombinant human BMP-2 is a 26.0 kDa homodimeric protein consisting of two 115 amino acid polypeptide chains. 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. The functional form of BMP-2 is a 26 kDa protein composed of two identical 114 amino acid polypeptide chains linked by a single disulfide bond. Each BMP-2 monomer is expressed as the C-terminal part of a precursor polypeptide, which also contains a 23 amino acid signal sequence for secretion, and a 259 amino acid propeptide. After dimerization of this precursor, the covalent bonds between the propeptide (which is also a disulfide-linked homodimer) and the mature BMP-2 ligand are cleaved by a furin-type protease.

- **Biological Activity** ≤ 0.8µg/ml
- **Source** *E. Coli*
- **Purity** ≥ 95 % (SDS-PAGE, silver stained)
- **Endotoxin level** ≤ 0.1ng/µg (≤ 1EU/µg)
- **Buffer** Acetic Acid (50mM)*
- **Physical state** Sterile filtered, lyophilized

Biological Activity

The ED₅₀ of 0.3-0.8µg/ml was determined by its ability to induce alkaline phosphatase production by C2C12 myogenic cells. It corresponds to a specific activity of ≥ 0.125 U/mg.

Reconstitution

We recommend a quick spin followed by reconstitution in 50mM acetic acid to a concentration of 0.1 mg/ml. It is also be soluble in most aqueous buffers when the pH is below 6.0. Do not vortex. This solution can be stored at 2-8°C for up to 1 week or in working aliquots at -20°C to -80°C. Working aliquots should be at the highest possible concentration.

Stability

The lyophilized protein is stable at room temperature for up 1 month and at least until the lot specific expiry date if kept below -18°C. Reconstituted BMP-2 is stable for at least 12 months when stored in working aliquots at -20°C to -80°C. **Please avoid repeated freeze-thaw cycles.**

*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

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Amino Acid Sequence

MQAKHKQRKR LKSSCKRHPL YVDFSDVGWN DWIVAPPGYH AFYCHGECPF PLADHLNSTN HAIVQTLVNS
VNSKIPKACC VPTELSAISM LYLDENEKVV LKNYQDMVVE GCGCR

Usage: For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

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