

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

Cat.no. PK0033

Product size: 10ug 50ug 100ug 1mg

Source: E. coli

Species: Human

Biological Activity: Measured by its ability to induce alkaline phosphatase production by ATDC-5 Cells, The ED50 for this effect is typically 0.07-0.2 µg/mL.

Molecular Weight: 26 kDa, observed by non-reducing SDS-PAGE.

Formulation: Lyophilized after extensive dialysis against 50 mM acetic acid.

Reconstitution: Reconstituted in 20 mM AcOH or 5 mM HCl. The solubility should be at 100 µg/ml.

Purity: > 95% as analyzed by non-reducing SDS-PAGE and HPLC analyses.

Endotoxin Level: < 1 EU/µg, determined by LAL method.

Storage: Lyophilized recombinant human Bone Morphogenetic Protein-2 (rhBMP-2) remains stable up to 6 months at lower than -70°C from date of receipt. Upon reconstitution, rhBMP-2 should be stable up to 2 weeks at 4°C or up to 3 months at -20°C.

Description: Human Bone Morphogenetic Protein-2 (BMP-2) is a bone-growth regulatory factor and belongs to the transforming growth factor-beta (TGF-beta) super-family. Human Bone Morphogenetic Protein-2 (BMP-2) is synthesized as large precursor molecule (Met1-Arg396, with a signal peptide from Met1 to Gly23), propeptide (Leu24-Arg282) of which is cleaved by PCSK5 (Proprotein Convertase Subtilisin/Kexin type 5). The active form consists of a dimer of two identical proteins which are linked by a disulfide bond at Cys360. It plays an important role in the development of bone and cartilage, cardiac cell differentiation and epithelial to mesenchymal transition. It is also involved in the hedgehog pathway, TGF-beta signaling pathway, and in cytokine-cytokine receptor interaction. Recombinant human Bone Morphogenetic Protein-2 (rhBMP-2) produced in E. coli is a disulfide-linked homodimer containing two non-glycosylated polypeptide chains of 115 amino acids. A fully biologically active molecule, rhBMP-2 has a molecular mass of 26 kDa analyzed by non-reducing SDS-PAGE.

Amino Acid Sequence:

00001 MQAKHKQRKR LKSSCKRHPL YVDFSDVGWN DWIVAPPGYH

00041 AFYCHGECPF PLADHLNSTN HAIVQTLVNS VNSKIPKACC

00081 VPTELSAISM LYLDENEKVV LKNYQDMVVE GCGCR

Synonyms: BMP-2, BMP2A, Bone morphogenetic protein 2, BMP-2A, BMP2

Note: For research use only, not for use in diagnostic procedure.