

PRODUCT DATA SHEET



Bioworld Technology, Inc.

Recombinant BMP-2, Human

Catalog Number: BK0010-1mg

Source: Escherichia coli.

Quantity: 1mg

Description:

Human Bone Morphogenetic Protein-2 (BMP-2) is a bone-growth regulatory factor and belongs to the transforming growth factor-beta (TGF-beta) superfamily. 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 and is obtained by proprietary refolding and chromatographic techniques at GenScript.

Molecular Weight:

26 kDa, observed by non-reducing SDS-PAGE

Purity:

> 95% as analyzed by non-reducing SDS-PAGE.

Biological Activity:

Assay #1: 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.
 Assay #2: Measured by its ability to induce alkaline phosphatase production by C2C12 cells, The ED50 for this

effect is typically 0.2-1 µg/mL.

Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation:

Lyophilized after extensive dialysis against 50 mM acetic acid.

AA Sequence:

MQAKHKQRKRLKSSCKRHPLYVDFSDVGWND
WIVAPPGY-
HAFYCHGECPPFLADHLNSTNHAIVQTLVNSVNS
KIPKACCVPTELSAISMLYLDENEKVVVK-
NYQDMVVEGCGCR

Endotoxin:

< 1 EU/µg, determined by LAL method.

Reconstitution:

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

Storage:

Lyophilized recombinant human Bone Morphogenetic Protein-2 (rhBMP-2) remains stable up to 6 months at -80 °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.

Usage:

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