Bone Morphogenetic Protein-4, human recombinant (rHuBMP-4)

Catalog No: 87324
Lot No: XXXXX
Source: *E. coli*
Synonyms: BMP4, ZYME, BMP2B, BMP2B1

Background

The protein encoded by this gene is a member of the bone morphogenetic protein family which is part of the transforming growth factor-beta superfamily. The superfamily includes large families of growth and differentiation factors. Bone morphogenetic proteins were originally identified by an ability of demineralized bone extract to induce endochondral osteogenesis in vivo in an extraskeletal site. This particular family member plays an important role in the onset of endochondral bone formation in humans, and a reduction in expression has been associated with a variety of bone diseases, including the heritable disorder Fibrodysplasia Ossificans Progressiva. Alternative splicing in the 5' untranslated region of this gene has been described and three variants are described, all encoding an identical protein.

Description

Bone Morphogenetic protein-4 human recombinant produced in *E. coli* is a monomeric, non-glycosylated, polypeptide chain containing 116 amino acids and having a molecular mass of 13 kDA. BMP-4 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

BMP-4 was lyophilized from a 0.2 µm filtered concentrated (1 mg/ml) solution in 20 mM Na_2CO_3 buffer, pH 9.0.

Solubility

It is recommended to reconstitute the lyophilized BMP-4 in sterile 18 MΩ-cm H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized Bone Morphogenetic Protein-4, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution BMP4 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

SPKHHSQRAR KKNKNCRRHS LYVDFSDVGW NDWIVAPPGY QAFYCHGDCP FPLADHLNST NHAIVQTLVN SVNSSIPKAC CVPTELSAIS MLYLDEYDKV VLKNYQEMVV EGCGCR

Usage

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