Recombinant Human Bone Morphogenetic Protein 4

Cat. No. BMP4-23H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human BMP4 is a protein expressed and purified from*human 293 cells*as a glycosylated homodimer with an apparent molecular mass of 34-38 kDa.
Species	Human
Source	HEK293
Description	Bone Morphogenetic Protein 4 (BMP-4) is a polypeptide belonging to the TGF-β protein superfamily. BMP-4 is involved in bone and cartilage development; more specifically, in tooth and limb development fracture repair1. In human embryonic development, BMP-4 is a critical signaling molecule required for the early differentiation of the embryo and establishment of a dorsal-ventral axis 2,3. BMP-4 plays an important role in differentiation of overlying ectodermal tissue. Inhibition of the BMP-4 signal causes the ectoderm to differentiate into the neural plate. In cultured stem cells, BMP-4 plays a distinct role in mouse and human embryonic stem (ES) cells. BMP-4 supports LIF as a positive factor for mouse ES cell self-renewal4. In contrast, BMP-4 induces extra-embryonic trophoblast differentiation in human ES cells.
Purity	Greater than 95 % by SDS-PAGE.
Formulation	Lyophilized from sterile-filtered 50 mM NaOAc, pH 4.5 and 1 M NaCl containing no additives.
Amino Acid	SPKHHSQRAR KKNKNCRRHS LYVDFSDVGW NDWIVAPPGY QAFY

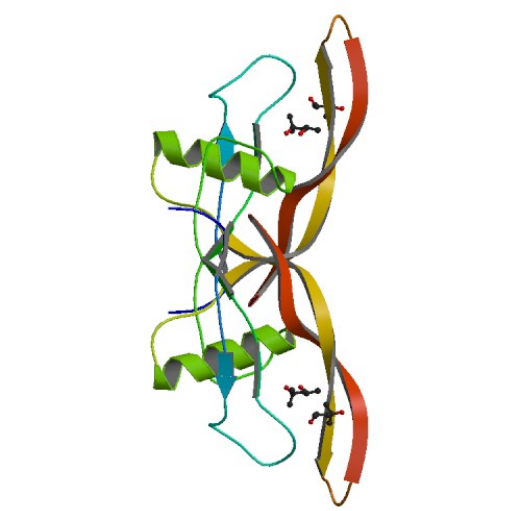
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Sequence	CHGDCPFPLAD HLNST NHA IVQTLVN SVN SSIPKAC CVPTELSAIS MLYLDEYDKV VLKNYQEMVV EGCGCR.
Endotoxin Level	< 1 EU/μg of BMP-4 as determined by the LAL method.
Biologic Activity	ED50 determined by its ability to induce alkaline phosphatase production by mouse chondrongenic ATDC-5 cells is 4.2 ng/ml.
Storage And Handling	Stemfactor™ BMP-4, Human Recombinant, is stable in the lyophilized form for six months at -20°C to -80°C. Centrifuge briefly and reconstitute BMP-4 in 4 mM HCl to prepare a working stock solution of no less than 0.1 mg/ml. Reconstituted BMP-4 should be stored in working aliquots at -20°C for up to six months. Multiple freeze and thaw cycles will result in significant loss of activity.

GENE INFORMATION

Gene Name	BMP4 bone morphogenetic protein 4 [Homo sapiens]
Synonyms	ZYME; BMP2B; BMP2B1; DVR4; MCOPS6; BMP-2B; BMP-4; Bone morphogenetic protein 4 precursor; bone morphogenetic protein 2B; bone morphogenetic protein 4; BMP4
Gene ID	652
mRNA Refseq	NM_001202
Protein Refseq	NP_001193
MIM	112262
UniProt ID	P12644

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Chromosome Location	14q22-q23
Function	cytokine activity. growth factor activity. heparin binding. protein binding. signal transducer activity
PDB rendering based on 1reu.	

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