

GMP Recombinant Human BMP4

Cat. No. BMP4-125H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Disulfidelinked homodimerMouse myeloma cell line, NS0derivedSer293-Arg408Accession # Q53XC5Manufactured and tested under current Good Manufacturing Practice (GMP) guidelines.
Species	Human
Source	NS0
Description	BMPs are secreted signaling molecules that comprise a subfamily of the TGF-beta superfamily and were originally identified as regulators of cartilage and bone formation. There are at least 20 structurally and functionally related BMPs, most of which play roles in embryogenesis and morphogenesis of various tissues and organs. Biologically active BMPs are usually homodimers containing a characteristic cysteine knot structure. Heterodimers, BMP-2/BMP-7 and BMP-4/BMP-7 have also been suggested to exist and function in vivo. They are more potent inducers of bone formation than their respective homodimers. In addition, heterodimers, but not homodimers, are ventral mesoderm inducers. Heterodimer activity may be mediated by a different or additional receptor subtype.
Predicted N Terminal	Ser293-Pro-Lys-His-His-Ser-Gln-Arg-Ala-Arg
Form	Lyophilized from a 0.2 µm filtered solution in Acetonitrile and TFA.
Bio-activity	Measured by its ability to induce alkaline phosphatase production by ATDC5 mouse chondrogenic cells. Binnerts, M.E. et al. (2004) Biochem. Biophys. Res. Commun.

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315(2):272. The ED50 for this effect is typically 2.5-15 ng/mL.

Molecular Mass	Predicted Molecular Mass: 13 kDa (monomer).SDSPAGE: 22-25 kDa, reducing conditions; 37-41 kDa, nonreducing conditions
Endotoxin	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDSPAGE with silver staining, under reducing conditions.
Storage	Use a manual defrost freezer and avoid repeated freezethaw cycles.12 months, -20 to -70 °C as supplied.1 month, 2 to 8 °C under sterile conditions after reconstitution.3 months, -20 to -70 °C under sterile conditions after reconstitution.
Reconstitution	Reconstitute at 50-200 µg/mL in 4 mM HCl.

GENE INFORMATION

Gene Name	BMP4 bone morphogenetic protein 4 [Homo sapiens]
Official Symbol	BMP4
Synonyms	BMP4; bone morphogenetic protein 4; BMP2B; BMP-4; BMP-2B; bone morphogenetic protein 2B; ZYME; OFC11; BMP2B1; MCOPS6;
Gene ID	652
mRNA Refseq	NM_001202
Protein Refseq	NP_001193
MIM	112262

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UniProt ID	Q53XC5
Chromosome Location	14q22-q23
Pathway	Adipogenesis, organism-specific biosystem; Basal cell carcinoma, organism-specific biosystem; Basal cell carcinoma, conserved biosystem; Glypican 3 network, organism-specific biosystem; Heart Development, organism-specific biosystem; Hedgehog signaling pathway, organism-specific biosystem; Hedgehog signaling pathway, conserved biosystem;
Function	BMP receptor binding; chemoattractant activity; cytokine activity; growth factor activity; protein binding;

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