Datasheet

Cat. No. P1156

Recombinant Human BMP-4

Information

Gene ID	652
Accession #	P12644
Alternate Names	BMP-2B
Source	*Escherichia coli.*
M.Wt	Approximately 13.3 kDa, a monomeric, non-glycosylated polypeptide chain containing 117 amino acids.
AA Sequence	MSPKHHSQRA RKKNKNCRRH SLYVDFSDVG WNDWIVAPPG YQAFYCHGDC PFPLADHLNS TNHAIVQTLV NSVNSSIPKA CCVPTELSAI SMLYLDEYDK VVLKNYQEMV VEGCGCR
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. - 12 months from date of receipt, -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.
Formulation	Lyophilized from a 0.2 μm filtered concentrated solution in 50 mM Na2CO3, 5 mM DTT, pH 11.0.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ⩽ -20 °C. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	Data is not available.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	10 μg	100 μg	500 μg
Recombinant Human BMP-4	10 μg	100 μg	500 μg

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 12 months from date of receipt, -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.

Quality Control

Purity	> 95 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/μg of rHuBMP-4 as determined by LAL method.

Description

Bone Morphogenetic Protein 4 is one of the BMPs, some of which belong to the TGF-beta superfamily (BMP2-7). There are more than thirteen BMPs have been discovered nowadays and they are involved in inducing cartilage and bone formation. BMP-4 is expressed in the lung and lower levels seen in the kidney. It also presents in normal and neoplastic prostate tissues, and prostate cancer cell lines. It regulates the formation of teeth, limbs and bone from mesoderm. Furthermore it also plays a role in fracture repair. BMP-4 signals through tetrameric complexes composed of type I and type II receptors and regulates it function by interaction with multiple proteins and glycosaminoglycans. The human BMP-4 shares 98 % sequence indentity with mouse BMP-4. Reduced expression of BMP-4 is associated with a number of bone diseases, including the heritable disorder Fibrodysplasia Ossificans Progressiva.

Reference

1. Yamashita H, Murayama C, Takasugi R, et al. 2011. Mol Cell Biochem, 348: 183-90.

2. Yates KE, Troulis MJ, Kaban LB, et al. 2002. Int J Oral Maxillofac Surg, 31: 173-8.

3. Bessa PC, Cerqueira MT, Rada T, et al. 2009. Protein Expr Purif, 63: 89-94.

4. Kawakami T, Kumasaka M, Kato M, et al. 2011. J Dermatol Sci, 63: 66-9.

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