

Recombinant Human BMP-4 Protein

Catalog Number: TL-607

Product name

Generic names	Recombinant Human BMP-4 Protein
Gene Name Synonym	Bone Morphogenetic Protein-4

Product information

Construction	A DNA sequence encoding the human BMP-4 (NP_001334841.1) was expressed with a polyhistidine tag at the C- terminus.
Source	Human
Expression Host	HEK293 cells
QC Testing Purity	> 90 % as determined by SDS-PAGE
Bio Activity	Depending on its ability to induce alkaline phosphatase production in ATDC-5 cells line (Mouse chondrogenic cell line), the expected ED ₅₀ effectiveness is 4-16ng/ml.
Endotoxin	< 0.1EU per µg of the protein as determined by the LAL method.
Molecular Mass	The recombinant human BMP-4 consists of 354 amino acids and predicts a molecular mass of 40.1 KDa.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 6 % - 8 % trehalose, mannitol are added as protectants before lyophilization.
Stability & Storage	Stable for up to 24 months from date of receipt at 4 °C. Stable for 6-12 months at -20 °C after reconstitution. Recommend to aliquot the protein into smaller quantities for optimal storage and avoid repeated freeze-thaw cycles.

Background

Bone morphogenetic proteins (BMPs) constitute a subfamily within the TGF-β superfamily of structurally related signaling proteins. Members of this superfamily are widely distributed throughout the body, and are involved in diverse physiological processes during both pre- and postnatal life. Like BMP-7, BMP-4 is involved in the development and maintenance of bone and cartilage. Reduced expression of BMP-4 is associated with a number of bone diseases, including the heritable disorder Fibrodysplasia Ossificans Progressiva.

References

1. van den Wijngaard A, Weghuis DO, Boersma CJ, van Zoelen EJ, Geurts van Kessel A, Olijve W (Nov 1995). Fine mapping of the human bone morphogenetic protein-4 gene (BMP4) to chromosome 14q22-q23 by in situ hybridization. *Genomics* 27 (3): 559–60. doi:10.1006/geno.1995.1096. PMID 7558046.

2. Oida S, Imura T, Maruoka Y, Takeda K, Sasaki S (Nov 1995). Cloning and sequence of bone morphogenetic protein 4 (BMP-4) from a human placental cDNA library. *DNA Seq* 5 (5): 273–5. doi:10.3109/10425179509030980. PMID 7579580.

3. Knöchel S, Dillinger K, Köster M, Knöchel W (November 2001). Structure and expression of *Xenopus tropicalis* BMP-2 and BMP-4 genes. *Mech. Dev.* 109 (1): 79 – 82.