

Recombinant Human Bone Morphogenetic Protein 4

#R00181

Size: 10 µg/100 µg/500 µg

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- A minimum of 12 months from date of receipt, when stored at $\leq -20^{\circ}\text{C}$ as supplied.
- 1 month, 2 to 8°C under sterile conditions after reconstitution.
- 3 months, -20 to -70°C under sterile conditions after reconstitution.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

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 identity with mouse BMP-4. Reduced expression of BMP-4 is associated with a number of bone diseases, including the heritable disorder Fibrodysplasia Ossificans Progressiva.

AA Sequence

MSPKHHSQRARKKNKNCRRHSLYVDFSDVGWNDWI
VAPPGYQAFYCHGDCPFPLADHLNSTNHAIVQTLVNS
VNSSIPKACCVPTELSAISMLYLDEYDKVVLKQNYQEM
VVEGCGCR

Reconstitution

Prior to opening, it is recommended to centrifuge the vial briefly to bring the contents down the bottom. Reconstitute in sterile distilled water to a concentration of 0.1 - 1.0 mg/mL. If animal-origin-free condition is expected in your product, then sterile distilled water is recommended. Stock solutions should be apportioned into working aliquots and stored at $\leq -20^{\circ}\text{C}$. Further dilutions should be made in appropriate buffered solutions.

Product Specification

Synonyms	BMP-2B
Accession	P12644
GeneID	652
Species	Human
Source	Escherichia coli.
Molecular Weight	Approximately 13.3 kDa, a monomeric, non-glycosylated polypeptide chain containing 117 amino acids.
Purity	> 95% by SDS-PAGE.
Applications	1. Molecular standard (Western, ELISA) in studying secreted BMP-4; 2. Preparing antibodies for BMP-4 monomer; 3. Molecule standard in detecting secreted BMP-4 in reduced SDS-PAGE.

Biological Activity	Data is not available.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation	Lyophilized from a 0.2 µm filtered concentrated solution in 50 mM Na ₂ CO ₃ , 5 mM DTT, 5% Trehalose, 0.02% Tween 20, pH 11.0.
Endotoxin	Less than 1 EU/µg of rHuBMP-4 as determined by LAL method.
Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
