

# Recombinant Human Bone Morphogenetic Protein 4 (rHuBMP-4)

## ChemWhat Technical Data Sheet (TDS)

<b>Catalog Number:</b>	108-04
<b>Source:</b>	<i>Escherichia coli</i> .
<b>Molecular Weight:</b>	Approximately 13.3 kDa, a monomeric, non-glycosylated polypeptide chain containing 117 amino acids.
<b>Quantity:</b>	2µg/10µg/1000µg
<b>AA Sequence:</b>	MSPKHHSQRA RKKKNKNCRRH SLYVDFSDVG WNDWIVAPPY YQAFYCHGDC PFPLADHLNS TNHAIVQTLV NSVNSSIPKA CCVPTLSAI SMLYLDEYDK VVLKNYQEMV VEGCGCR
<b>Purity:</b>	> 95 % by SDS-PAGE and HPLC analyses.
<b>Biological Activity:</b>	Data is not available.
<b>Physical Appearance:</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Formulation:</b>	Lyophilized from a 0.2 µm filtered concentrated solution in 50 mM Na <sub>2</sub> CO <sub>3</sub> , 5 mM DTT, pH 11.0.
<b>Endotoxin:</b>	Less than 1 EU/µg of rHuBMP-4 as determined by LAL method.
<b>Applications:</b>	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.
<b>Reconstitution:</b>	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.
<b>Shipping:</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage:</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"><li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li><li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li><li>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li></ul>
<b>Usage:</b>	ChemWhat Limited in UK offers this branded product for research, development or further evaluation purposes. <b>NOT FOR HUMAN USE.</b>

### *Human Bone Morphogenetic Protein 4*

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 its 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.