

Background:

Bone Morphogenetic Proteins (BMPs) belong to the TGF-beta superfamily of structurally related signaling proteins. BMP-2 is a potent osteoinductive cytokine, capable of inducing bone and cartilage formation in association with osteoconductive carriers such as collagen and synthetic hydroxyapatite. In addition to its osteogenic activity, BMP-2 plays an important role in cardiac morphogenesis and is expressed in a variety of tissues including lung, spleen, brain, liver, prostate ovary and small intestine. The functional form of BMP-2 is a 26 kDa protein composed of two identical 114 amino acid polypeptide chains linked by a single disulfide bond. Each BMP-2 monomer is expressed as the C-terminal part of a precursor polypeptide, which also contains a 23 amino acid signal sequence for secretion, and a 259 amino acid propeptide. After dimerization of this precursor, the covalent bonds between the propeptide (which is also a disulfide-linked homodimer) and the mature BMP-2 ligand are cleaved by a furin-type protease.

Source:

Recombinant Human BMP-2 is expressed from Escherichia coli. It contains AA Ala 284 - Arg 396. The protein has a calculated MW of 15.7 kDa. The protein migrates as 20 kDa under reducing (R) condition (SDS-PAGE). This protein carries a polyhistidine tag at the N-terminus.

His₆ TEV BMP-2(Ala 284 - Arg 396)

Endotoxin:

Less than 1.0 EU per µg by the LAL method.

AA Sequence:

MQAKHKQRKRLKSSCKRHPLYVDFSDVGWNDWIVAPPGYHAFYCHGECPF PLADHLNSTN HAIVQTLVNS VNSKIPKACC
VPTLSAISM LYLDENEKVV LKNYQDMVVE GCGCR

Purity:

Purity >90% as determined by SDS-PAGE.

Formulation:

Lyophilized from 0.22 µm filtered solution in 100 mM Acetic Acid, pH2.8 with trehalose as protectant. Contact us for customized product form or formulation.

Reconstitution

Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA 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.

Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

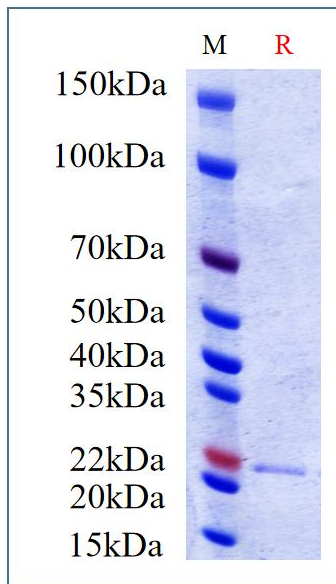
Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

-20°C to -70°C for 12 months in lyophilized state;

-70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



Human BMP2, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 90%.