Data Sheet (Cat.No.TMPR-00001)

TargetMol

BMP-4 Protein, Human, Recombinant

General Information

Synonyms:	BMP-4;BMP4;Bone morphogenetic protein 4
Protein Construction:	Ser293-Arg408, Disulfide-linked homodimer
Species:	Human
Expression Host:	Mouse myeloma cell line, NS0
Accession:	Q53XC5
Molecular Weight:	19-24 kDa (reducing conditions); 35-41 kDa (non-reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to induce BMP responsive SEAP reporter activity in HEK293 human embryonic kidney cells. The ED50 for this effect is 0.70-7.00 ng/mL. Measured by its ability to induce alkaline phosphatase production by ATDC5 mouse chondrogenic cells. Binnerts, M.E. et al. (2004) Biochem. Biophys. Res. Commun. 315(2):272. The ED50 for this effect is 3.00-30.0 ng/mL.
Purity:	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie Blue Staining.
Endotoxin:	<0.01 EU per 1 μg of the protein by the LAL method.
Formulation:	Lyophilized from a 0.2 μm filtered solution in Acetonitrile and TFA with BSA as a carrier protein.

Preparation and Storage

Reconstitution:

Reconstitute at 50-200 μg/mL in sterile 4 mM HCl containing at least 0.1% human or bovine serum albumin.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

BMP4 (bone morphogenetic protein-4)-directed differentiation of human embryonic stem cells (ESCd). Autophagy is a conserved catabolic process with complicated roles in tumor development. Bone morphogenetic protein 4 (BMP4), a member of the transforming growth factor (TGF-β) family of regulatory proteins, plays a crucial role in

human malignancies. BMP4 treatment promoted HCC cells proliferation and induced autophagy. Mechanistic study revealed that the induction of autophagy by BMP4 was mediated through activating the JNK1/Bcl2 pathway. And the JNK1 inhibitor and knockdown of JNK1 could attenuate autophagy induced by BMP4 and eliminated BMP4-promoted HCC cells growth. BMP4 promoted HCC proliferation by autophagy activation through JNK1/Bcl-2 signaling.

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