

BMP-2 Protein, Human, Recombinant (His)

General Information

Synonyms:	BMP2A;BMP-2;BMP2;Bone morphogenetic protein 2;Bone morphogenetic protein 2A (BMP-2A)
Protein Construction:	283-396 aa
Species:	Human
Expression Host:	E. coli
Accession:	P12643
Molecular Weight:	16.9 kDa (predicted)
AA Sequence:	QAKHKQRKRLKSSCKRHPLYVDFSDVGVNDWIVAPPGYHAFYCHGECFPFLADHLNSTNHAIVQTLVNSVN SKIPKACCVPTELSAISMLYLDENEKVVLLKNYQDMVVEGCGCR

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Tris-based buffer, 50% glycerol

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

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

Growth factor of the TGF-beta superfamily that plays essential roles in many developmental processes, including cardiogenesis, neurogenesis, and osteogenesis. Induces cartilage and bone formation. Initiates the canonical BMP signaling cascade by associating with type I receptor BMPR1A and type II receptor BMPR2. Once all three components are bound together in a complex at the cell surface, BMPR2 phosphorylates and activates BMPR1A. In turn, BMPR1A propagates signal by phosphorylating SMAD1/5/8 that travel to the nucleus and act as activators

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and repressors of transcription of target genes. Can also signal through non-canonical pathways such as ERK/MAP kinase signaling cascade that regulates osteoblast differentiation. Stimulates also the differentiation of myoblasts into osteoblasts via the EIF2AK3-EIF2A-ATF4 pathway by stimulating EIF2A phosphorylation which leads to increased expression of ATF4 which plays a central role in osteoblast differentiation.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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