

BMP-2 Protein, Danio rerio (zebrafish), Recombinant

General Information

Synonyms:	bone morphogenetic protein 2
Protein Construction:	A DNA sequence encoding the zebrafish BMP2A (B3DI86) (Gln272-Arg386) was expressed and purified with an initial Met. Predicted N terminal: Met
Species:	Danio rerio (zebrafish)
Expression Host:	E. coli
Accession:	B3DI86
Molecular Weight:	13.2 kDa (predicted); 13 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to induce alkaline phosphatase production by ATDC5 mouse chondrogenic cells. The ED50 for this effect is typically 0.5-3 µg/mL.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing 30 mM HAC, pH 3. 0. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

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:

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

BMP-2 protein, like other bone morphogenetic proteins, plays an important role in the development of bone and cartilage. BMP-2 protein is involved in the hedgehog pathway, TGF beta signaling pathway, and cytokine-cytokine receptor interaction. BMP-2 and BMP-7 are osteogenic BMPs that have been demonstrated to potently induce osteoblast differentiation in a variety of cell types. BMP-2, BMP-4 and BMP-7 are known to be of major importance in bone formation and repair. In cancerous tissues BMP-2 protein may play an important role in the progression of

glioma.

Reference

Jiao X, et al. (2007) Heparan sulfate proteoglycans (HSPGs) modulate BMP-2 osteogenic bioactivity in C2C12 cells. J Biol Chem. 282(2):1080-6.

Michon F, et al. (2008) BMP-2 and BMP-7 play antagonistic roles in feather induction. Development 135 (16):2797-805.

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