

Danio rerio (zebrafish) BMP-2 / BMP2A Protein

Catalog Number: 63003-ZNAE



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

BMP2A

Protein Construction:

A DNA sequence encoding the zebrafish BMP2A (B3DI86) (Gln272-Arg386) was expressed and purified with an initial Met.

Source: Danio rerio (zebrafish)

Expression Host: E. coli

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio-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.

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant zebrafish BMP2A consists of 116 amino acids and has a calculated molecular mass of 13.2 kDa. It migrates as an 13 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 30mM HAC, pH 3.0.

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

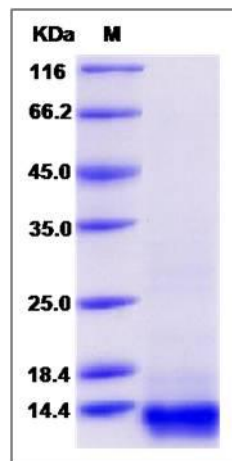
Usage Guide

Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

Bone morphogenetic protein 2 (BMP2) is a member of the BMP subgroup belonging to the transforming growth factor (TGF)-beta superfamily. The mature BMP2 acts as disulfide-linked homodimers and heterodimers with BMP-7 after proteolytic removal of propeptide. BMP2 is capable of inducing the formation of cartilage and bone but are now regarded as multifunctional cytokines. It binds heterodimeric receptor complexes composed of a type I? receptor and a type I?I receptor, and transduces the related signals via the down-stream molecules, such as the PI3 kinase, Smads, STATs, etc. BMP2 has been demonstrated to potently induce osteoblast differentiation in a variety of cell types, and induce apoptosis in human myeloma cell lines as a novel function. In addition, recent studies have revealed that osteoblast-derived BMP2 enhances the migration of prostate cancer cells. rhBMP2 can be utilized in various therapeutic interventions such as bony defects, delayed union, non-union fractures and osteoporosis.

References

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2. Chen D. et al., 2004, Growth Factors. 22: 233-41.
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4. Lai TH. et al., 2008, Prostate. 68: 1341-53.
5. Ghosh-Choudhury N. et al., 2002, J Biol Chem. 277: 33361-8.
6. Hallahan AR. et al., 2003, Nat Med. 9: 1033-8.

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