

Recombinant Mouse BMP7 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51332

Size: 10ug, 100ug

Protein Name: Bone morphogenetic protein 7 (BMP-7) (Osteogenic protein 1) (OP-1)

Synonym: Bmp7, Bmp-7, Op1

UniProt ID: P23359

UniProt Link: www.uniprot.org/uniprotkb/P23359/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 430 AA

Molecular Weight: 49 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MHVRSLRAAAPHSFVALWAPLFLRLSALADFSLDNEVHSSFIHRRLRSQERREMQRILSILGLPHRP
RPHLQGKHNSAPMFMLDLYNAMAVEESGPDGQGGSYPYKAVFSTQGPPLASLQDSHFLTDADMVM
SFVNLVEHDKEFFHPRYHHREFRFDLSKIPEGEAVTAAEFRIYKDYIRERFDNETFQITVYQVLQEHS
GRESDFLLDSRTIWASEEGWLVDITATSNHWVNPRLNLGLQSVETLDGQSINPKLAGLIGRHG
PQNKQPFMVAFFKATEVHLRSIRSTGGKQRSQNRSKTPKNQEALRMASVAENSSSDQRQACKKHE
LYVSFRDLGWQDWIIAPEGYAAYYCEGECAPPLNSYMNATNHAIVQTLVHFINPDTVPKPCCAPTQL
NAISVLYFDDSSNVILKKYRNMVVRACGCH

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Bone morphogenetic protein 7 (BMP-7) (Osteogenic protein 1) (OP-1) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Growth factor of the TGF-beta superfamily that plays important role in various biological processes, including embryogenesis, hematopoiesis, neurogenesis and skeletal morphogenesis (PubMed:22461901, PubMed:9013703). Initiates the canonical BMP signaling cascade by associating with type I receptor ACVR1 and type II receptor ACVR2A. Once all three components are bound together in a complex at the cell surface, ACVR2A phosphorylates and activates ACVR1. In turn, ACVR1 propagates signal by phosphorylating SMAD1/5/8 that travel to the nucleus and act as activators and repressors of transcription of target genes. For specific functions such as growth cone collapse in developing spinal neurons and chemotaxis of monocytes, also uses BMPR2 as type II receptor. Can also signal through non-canonical pathways such as P38 MAP kinase signaling cascade that promotes brown adipocyte differentiation through activation of target genes, including members of the SOX family of transcription factors (By similarity). Promotes the expression of HAMP, this is repressed by its interaction with ERFE (PubMed:30097509).

Subcellular Localization: Secreted .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.