

Recombinant Human BMP5 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50074

Size: 10ug, 100ug

Protein Name: Bone morphogenetic protein 5 (BMP-5)

Synonym: BMP5

UniProt ID: P22003

UniProt Link: www.uniprot.org/uniprotkb/P22003/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 454 AA

Molecular Weight: 52 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MHLTVFLLKGIVGFLWSCWVLVGYAKGGLGDNHVSFSFIYRRLRNHERREIQREILSILGLPHRPRPF
SPGKQASSAPLFLMDLYNAMTNEENPEESEYSVRASLAEETRGARKGYSPNGYPRRIQLSRTP
LTTQSPPLASLHDTNFLNDADMVMSFVNLVERDKDFSHQRRHYKEFRFDLTQIPHGEAVTAAEFRIY
KDRSNNRFENETIKISYQIIKEYTNRDADLFLLDTRKAQALDVGWLVDITVTSNHWVINPQNNLGLQ
LCAETGDGRSINVKSAGLVGRQGPQSKQPFMVAFFKASEVLLRSVRAANKRKNQNRNKSSSHQDS
SRMSSVGDYNTSEQKQACKKHELYVSFRDLGWQDWIIAPEGYAAFYCDGECFPLNAHMNATNHAI
VQTLVHLMFPDHPKPCCAPTKLNAISVLYFDDSSNVILKKYRNMVVRSCGCH

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 5 (BMP-5) 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 essential roles in many developmental processes, including cartilage and bone formation or neurogenesis (PubMed:11580864, PubMed:29321139). Initiates the canonical BMP signaling cascade by associating with type I receptor BMPR1A and type II receptor BMPR2 (PubMed:11580864). In turn, BMPR1A propagates signal by phosphorylating SMAD1/5/8 that travel to the nucleus and act as activators and repressors of transcription of target genes (PubMed:11580864, PubMed:29321139). Can also signal through non-canonical pathway such as MAPK p38 signaling cascade to promote chondrogenic differentiation (PubMed:20402566). 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.