

Recombinant Human GDF6 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50368

Size: 10ug, 100ug

Protein Name: Growth/differentiation factor 6 (GDF-6) (Bone morphogenetic protein 13) (BMP-13) (Growth/differentiation factor 16)

Synonym: GDF6, BMP13, GDF16

UniProt ID: Q6KF10

UniProt Link: www.uniprot.org/uniprotkb/Q6KF10/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 455 AA

Molecular Weight: 51 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MDTPRVLLSAVFLISFLWDLPGFQQASISSSSSSAELGSTKGMRSRKEGKMQRAPRDSAGREGQE
PQPRPQDEPRAQQPRAQEPPGRGPRVVPHEYMLSIYRTYSIAEKLGINASFFQSSKSANTITSFVDR
GLDDLSTPLRRQKYLFDVSMMLSDKEELVGAEELRLFRQAPSAPWGPPAGPLHVQLFPCLSPLLDA
RTLDPQGAPPAGWEVFDVWQGLRHQPWKQLCLELRAAWGELDAGEAEARARGPQQPPPPDLRSL
GFGRVRPPQERALLVVFTRSQRKNLFAEMREQLGSAEAAGPGAGAEGSWPPPSGAPDARPWLP
SPGRRRRRTAFASRHGKRHGKKSRLRCSKKPLHVNFKELGWDDWIIAPLEYEAYHCEGVCDFPLRS
HLEPTNHAIQITLMNSMDPGSTPPSCCVPTKLTPISILYIDAGNNVYKQYEDMVVESCGR

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 Growth/differentiation factor 6 (GDF-6) (Bone morphogenetic protein 13) (BMP-13) (Growth/differentiation factor 16) 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 that controls proliferation and cellular differentiation in the retina and bone formation. Plays a key role in regulating apoptosis during retinal development. Establishes dorsal-ventral positional information in the retina and controls the formation of the retinotectal map (PubMed:23307924). Required for normal formation of bones and joints in the limbs, skull, digits and axial skeleton. Plays a key role in establishing boundaries between skeletal elements during development. Regulation of GDF6 expression seems to be a mechanism for evolving species-specific changes in skeletal structures. Seems to positively regulate differentiation of chondrogenic tissue through the growth factor receptors subunits BMPR1A, BMPR1B, BMPR2 and ACVR2A, leading to the activation of SMAD1-SMAD5-SMAD8 complex. The regulation of chondrogenic differentiation is inhibited by NOG (PubMed:26643732). Also involved in the induction of adipogenesis from mesenchymal stem cells. This mechanism acts through the growth factor receptors subunits BMPR1A, BMPR2 and ACVR2A and the activation of SMAD1-SMAD5-SMAD8 complex and MAPK14/p38 (By similarity).

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.