

Recombinant Rat GDF6 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52663

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: Q6HA10

UniProt Link: www.uniprot.org/uniprotkb/Q6HA10/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 452 AA

Molecular Weight: 51 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MDTPRVLLWAIFLISFLWDLPGFQQASISSSSSTELDKDVENRKGGKMQRTPQESAEGRTPKEHR
PRPNELRRRLPGQSLGQEPGRGPRVVPHEYMLSIYRTYSIAEKLGINASFFQSSKSANTITSFVDRG
LDDLSTPLRRQKYLFDVSTLSDKEELVGAELRLYRQAPPTWGPQTRPLHLQLFPCLSPLLDSRT
LDPQGPTAEAGWEVFDVWQVLRPQPWKQLCLELRAVWGELDARDSGARPRGPQQSPPLDLRSLGF
GRRVRPPQERALLVVFTSRQRKNLFTEMHEQLGSAEAAGAEGSWPAPSGAPDAGSWLPSPGRRR
RRTALSSRHGKRHGKKSRLRCSRKPLHVNFKELGWDDWIIAPLEYEAYHCEGVCDFPLRSHLEPTN
HAIQTLMNSMDPGSTPPSCCVPTKLTPI SILYIDAGNNVVYKQYEDMVVESCGR

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. 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. 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.

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.