Recombinant GDF6 protein (His tag)

Catalog Number	540513
Synonyms	GDF-6; Bone morphogenetic protein 13; BMP-13; Growth/differentiation factor 16
Species	Human
Expression System	E. coli
Accession	Q6KF10
Molecular Weight	Predictes a molecular mass of 13.41 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 13 kDa band.

Product Information

Sequence Region	352-455
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 352-455 aa (Q6KF10) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Growth/differentiation factor 6 (GDF-6) Fragment (aa 352-455) - A highly stable and soluble protein fragment ideal for structural and biochemical studies of this key regulator of retinal development, bone formation, and cellular differentiation processes. Growth/differentiation factor 6 (GDF-6), also known as Bone morphogenetic protein 13 (BMP-13), is a secreted growth factor that plays crucial roles in controlling proliferation and cellular differentiation in both retinal and skeletal systems. This protein establishes dorsal-ventral positional information in the retina and regulates apoptosis during retinal development, while also being essential for normal formation of bones and joints in limbs, skull, digits, and axial skeleton. GDF-6 functions through binding to growth factor receptors including BMPR1A, BMPR1B, BMPR2, and ACVR2A, leading to activation of SMAD1-SMAD5-SMAD8 complexes. It positively regulates chondrogenic differentiation and participates in adipogenesis induction from mesenchymal stem cells through both SMAD signaling and MAPK14/p38 pathways. The protein is naturally secreted and plays a fundamental role in establishing boundaries between skeletal elements during development.