

BMP-13/GDF-6 Protein, Mouse

Cat. No.:	HY-P79333
Synonyms:	Growth/differentiation factor 6; Gdf6; GDF-6; Bone morphogenetic protein 13; BMP-13; Growth/differentiation factor 16; Growth Differentiation Factor 6
Species:	Mouse
Source:	E. coli
Accession:	P43028 (T335-R454)
Gene ID:	242316
Molecular Weight:	Approximately 13.7 kDa

PROPERTIES

AA Sequence	T A F A S R H G K R H G K K S R L R C S R K P L H V N F K E L G W D D W I I A P L E Y E A Y H C E G V C D F P L R S H L E P T N H A I I Q T L M N S M D P G S T P P S C C V P T K L T P I S I L Y I D A G N N V V Y K Q Y E D M V V E S C G C R
Biological Activity	Measured by its ability to induce alkaline phosphatase production by ATDC5 mouse chondrogenic cells. The ED ₅₀ for this effect is typically 0.85-5 µg/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from sterile 50 mM Tris-HCL, 300 mM NaCL, 500 mM arginine, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 300 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	BMP-13/GDF-6 Protein, a versatile growth factor, orchestrates critical roles in cellular processes, including the regulation of proliferation and differentiation in both the retina and bone formation. Its pivotal involvement in retinal development includes the control of apoptosis and the establishment of dorsal-ventral positional information, crucial for the formation of the retinotectal map. Moreover, BMP-13/GDF-6 is indispensable for the normal development of bones and joints in various anatomical regions, such as limbs, skull, digits, and axial skeleton. Its significance extends to shaping species-specific changes in skeletal structures, suggesting a role in the evolution of distinct anatomical features. This multifaceted growth
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factor positively regulates chondrogenic tissue differentiation through specific receptor subunits, including BMPR1A, BMPR1B, BMPR2, and ACVR2A, activating the SMAD1-SMAD5-SMAD8 complex. Notably, the regulation of chondrogenic differentiation faces inhibition by NOG. Additionally, BMP-13/GDF-6 participates in the induction of adipogenesis from mesenchymal stem cells, employing growth factor receptor subunits BMPR1A, BMPR2, and ACVR2A, along with the activation of SMAD1-SMAD5-SMAD8 complex and MAPK14/p38. This intricate molecular ballet unfolds through homodimerization, forming disulfide-linked structures.

Caution: Product has not been fully validated for medical applications. For research use only.

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