Animal-Free GDF-2/BMP-9 Protein, Human (His)

Cat. No.:	HY-P700033AF
Synonyms:	GDF-2; BMP-9; GDF2; BMP9
Species:	Human
Source:	E. coli
Accession:	Q9UK05 (S320-429R)
Gene ID:	2658
Molecular Weight:	Approximately 12.89 kDa

PROPERTIES

AA Sequence	S A G A G S H C Q K T S L R V N F E D I G W D S W I I A P K E Y E A Y E C K G G C F F P L A D D V T P T K H A I V Q T L V H L K F P T K V G K A C C V P T K L S P I S V L Y K D D M G V P T L K Y H Y E G M S V A E C G C R
Biological Activity	Measure by its ability to induce alkaline phosphatase production by ATDC5 cells. The ED_{50} for this effect is <0.4 ng/mL
Appearance	Lyophilized powder
Formulation	Lyophilized from a solution containing 20 mM sodium citrate, 0.2 M NaCl, pH 3.5, trehalose or 20 mM sodium citrate, 0.2 M NaCl, pH 4.5.
Endotoxin Level	<0.01 EU per 1 μg of the protein by the LAL method.
Reconstitution	It is recommended to reconstitute to a concentration of 100-200 μg/mL in ddH_2O. 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 from date of receipt. 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-9/GDF-2 Protein emerges as a potent circulating inhibitor of angiogenesis, specifically signaling through the type I activin receptor ACVRL1 while excluding other Alks. In endothelial cells, its signaling pathway involves the requirement for the TGF-beta coreceptor endoglin/ENG for efficient activation of SMAD1. Existing as a homodimer with disulfide-linked structures, BMP-9/GDF-2 is detected in extracellular fluid both as a mature homodimer and in complex with its propeptide. The protein establishes high-affinity interactions with ACVRL1, BMPR2, and ACVR2B, crucial for its signal transduction cascade. Furthermore, it forms complexes with ENG, either as a heterotetramer with a 2:2 stoichiometry or as a heteromeric

complex with ENG and ACVRL1. Notably, it also interacts with the type I receptor ACVR1, contributing to the intricate regulatory network within the TGF-beta signaling pathway.

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