

Animal-Free BMP-10 Protein, Human (His)

Cat. No.:	HY-P700019AF
Synonyms:	Bone morphogenetic protein 10; BMP10
Species:	Human
Source:	E. coli
Accession:	O95393 (N317-R424)
Gene ID:	27302
Molecular Weight:	Approximately 13.10 kDa

PROPERTIES

AA Sequence	<p>M N A K G N Y C K R T P L Y I D F K E I G W D S W I I A P P G Y E A Y E C R G V</p> <p>C N Y P L A E H L T P T K H A I I Q A L V H L K N S Q K A S K A C C V P T K L E</p> <p>P I S I L Y L D K G V V T Y K F K Y E G M A V S E C G C R</p>
Biological Activity	Measure by its ability to induce alkaline phosphatase production by ATDC5 cells. The ED ₅₀ for this effect is 1.7-2.1 ng/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a solution containing 20 mM sodium citrate, 0.2 M NaCl, pH 3.5, trehalose.
Endotoxin Level	<0.1 EU per 1 µg of the protein by the LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 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	<p>BMP-10 is vital for maintaining the proliferative activity of embryonic cardiomyocytes, preventing premature activation of the negative cell cycle regulator CDKN1C/p57KIP, and ensuring the necessary expression levels of cardiogenic factors like MEF2C and NKX2-5. Functioning as a ligand for ACVRL1/ALK1, BMPR1A/ALK3, and BMPR1B/ALK6, it triggers the activation of SMAD1, SMAD5, and SMAD8 transcription factors, orchestrating crucial signaling pathways. Additionally, BMP-10 exhibits inhibitory effects on endothelial cell migration and growth, and in breast cancer cell lines, it may attenuate both cell migration and cell matrix adhesion. Structurally, it forms a homodimer linked by disulfide bonds. Notably, BMP-10 interacts with extracellular matrix proteins FBN1 and FBN2 through its N-terminal domain and engages with ENG, further</p>
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underscoring its multifaceted roles in various cellular processes.

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

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