

Recombinant Human Growth Differentiation Factor 5/Bone Morphogenetic Protein-14 (Human GDF-5/BMP-14)

Product Information

Product Name	Cat#	Size
Recombinant Human Growth Differentiation Factor 5/Bone	92003ES10	10 µg
Morphogenetic Protein-14 (Human GDF-5/BMP-14)	92003ES60	100 µg
	92003ES76	500 µg

Product Description

Growth Differentiation Factor-5 (GDF-5; also called BMP-14 and CDMP-1) is a member of the BMP family of TGF-beta superfamily proteins. Human GDF-5, -6, and -7 are a defined subgroup of the BMP family. GDF-5 is synthesized as a homodimeric precursor protein consisting of a 354 amino acid (aa) N-terminal pro-region and a 120 aa C-terminal mature peptide. Mature human GDF-5 shares 99% aa sequence identity with both mature mouse and rat GDF-5. GDF-5 signaling is mediated by formation of a heterodimeric complex consisting of a type I (BMPRI-IB) and a type II (BMPRII or Activin RII) serine/threonine kinase receptor which results in the phosphorylation and activation of cytosolic Smad proteins (Smad1, 5, and 8). Similar to other BMP family proteins, GDF-5 signaling is antagonized by Noggin. GDF-5 is involved in multiple developmental processes including limb generation, cartilage development, joint formation, bone morphogenesis, cell survival, and neuritogenesis.

Product Properties

Synonyms	CDMP-1, CDMP1LAP4
Accession	P43026
GeneID	8200
Source	E.coli-derived Human GDF-5/BMP-14, Ala382-Arg501.
Molecular Weight	Approximately 27.1 kDa.
AA Sequence	APLATRQGKR PSKNLKCRC RKALHVNFKD MGWDDWIIAP LEYEAHFCEG LCEFPLRSHL EPTNHAVIQT LMNSMDPEST PPTCCVPTRL SPISILFIDS ANNVVYKQYE DMVVESCGCR
Tag	None
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	> 95% by SDS-PAGE and HPLC analyses.
Biological Activity	The ED ₅₀ as determined by inducing alkaline phosphatase production of murine ATDC5 cells is less than 1.0 µg/mL, corresponding to a specific activity of > 1000 IU/mg. Fully biologically active when compared to standard.
Endotoxin	< 0.1 EU per 1µg of the protein by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered concentrated solution in 30% Acetonitrile and 0.1% TFA. We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom.
Reconstitution	Reconstitute in 4 mM HCl to a concentration of 0.1-1.5 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20°C. Further dilutions should be made in appropriate buffered solutions.

Shipping and Storage

The products are shipped with ice pack and can be stored at -20°C to -80°C for 1 year.

Recommend to aliquot the protein into smaller quantities when first used and avoid repeated freeze-thaw cycles.

Cautions

1. Avoid repeated freeze-thaw cycles.
2. For your safety and health, please wear lab coats and disposable gloves for operation.
3. For research use only!