

Animal-Free FGF-1 Protein, Human (His)

Cat. No.:	HY-P700053AF
Synonyms:	aFGF; HBGF-1; ECGF; FGF1; FGF-a; FGF-acidic
Species:	Human
Source:	E. coli
Accession:	P05230 (F16-D155)
Gene ID:	2246
Molecular Weight:	Approximately 16.77 kDa

PROPERTIES

AA Sequence	<p>M F N L P P G N Y K K P K L L Y C S N G G H F L R I L P D G T V D G T R D R S D</p> <p>Q H I Q L Q L S A E S V G E V Y I K S T E T G Q Y L A M D T D G L L Y G S Q T P</p> <p>N E E C L F L E R L E E N H Y N T Y I S K K H A E K N W F V G L K K N G S C K R</p> <p>G P R T H Y G Q K A I L F L P L P V S S D</p>
Biological Activity	Measure by its ability to induce 3T3 cells proliferation. The ED ₅₀ for this effect is <0.3 ng/mL. The specific activity of recombinant human FGF-1 is >1 x 10 ⁶ IU/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a solution containing 1X PBS, pH 8.0.
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.
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>FGF-1 Protein assumes a pivotal role in intricately regulating cell survival, division, angiogenesis, differentiation, and migration. Functioning as a potent mitogen in vitro, it acts as a ligand for FGFR1 and integrins. Binding to FGFR1, particularly in the presence of heparin, leads to FGFR1 dimerization and activation through sequential autophosphorylation on tyrosine residues. This activation serves as docking sites for interacting proteins, initiating several signaling cascades. Furthermore, FGF-1 Protein binds to integrin ITGAV:ITGB3, forming a ternary complex with integrin and FGFR1, crucial for FGF1 signaling. Inducing the phosphorylation and activation of FGFR1, FRS2, MAPK3/ERK1, MAPK1/ERK2, and AKT1, it demonstrates its</p>
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involvement in diverse cellular processes. Additionally, FGF-1 Protein's ability to induce angiogenesis further underscores its multifaceted role. Interactions with FGFRs, integrins, and various proteins within complex networks highlight its intricate participation in cellular signaling pathways, emphasizing its significance in cell physiology.

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

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