

FGF-1 Protein, Mouse (N-His)

Cat. No.:	HY-P700282
Synonyms:	rMuaFGF; HBGF-1; FGF1; FGF-a; FGF-acidic
Species:	Mouse
Source:	E. coli
Accession:	P61148 (F16-D155)
Gene ID:	14164
Molecular Weight:	Approximately 17 kDa

PROPERTIES

AA Sequence	<pre> F N L P L 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 Q H I Q L Q L S A E S A G E V Y I K G T E T G Q Y L A M D T E G L L Y G S Q T P N E E C L F L E R L E E N H Y N T Y T S K K H A E K N W F V G L K K N G S C K R G P R T H Y G Q K A I L F L P L P V S S D </pre>
Biological Activity	Measured in a cell proliferation assay using NIH-3T3 mouse fibroblast cells. The ED ₅₀ for this effect is 0.4015 ng/mL, corresponding to a specific activity is 2.490×10 ⁶ units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 50 mM Tris-HCL, 300 mM NaCl, pH 6.5.
Endotoxin Level	<1 EU/μg, determined by 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	The FGF-1 protein plays a crucial role in the regulation of various cellular processes, including cell survival, division, angiogenesis, differentiation, and migration. It acts as a potent mitogen and functions as a ligand for both FGFR1 and integrins. In the presence of heparin, FGF-1 binds to FGFR1, leading to dimerization and activation through autophosphorylation on tyrosine residues, which serve as docking sites for interacting proteins. This activation triggers multiple signaling cascades. FGF-1 also binds to integrin ITGAV:ITGB3, forming a ternary complex with FGFR1 and inducing
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the recruitment of PTPN11 to the complex, which is essential for FGF-1 signaling. It induces the phosphorylation and activation of FGFR1, FRS2, MAPK3/ERK1, MAPK1/ERK2, and AKT1, and can also stimulate angiogenesis. FGF-1 interacts with several receptors and proteins, including FGFR2, FGFR3, FGFR4, FGFBP1, S100A13, SYT1, LRRC59, CSNKA, CSNKB, and FIBP. Additionally, it forms a Cu(2+)-dependent multiprotein aggregate with S100A13 and SYT1. While the interaction of FGF-1 with LRRC59, CSNKA, and FIBP appears to be mutually exclusive, CSNKB and FIBP may cooperatively interact with FGF-1. Overall, FGF-1 plays a complex role in cellular processes through its interactions with various receptors and proteins.

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

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