



Recombinant Human Hepatocyte Growth Factor (rhHGF)

Catalog #105-39

Description

Hepatocyte Growth Factor (HGF), also known as scatter factor or hepatopoietin A, is a pleiotropic cytokine belonging to the plasminogen-related S1 serine protease family. Structurally, HGF contains an N-terminal PAN/APPLE-like domain, four kringle domains, and a C-terminal serine protease-like domain lacking enzymatic activity.

Human HGF is synthesized as an inactive 728 amino acid single-chain precursor that is proteolytically cleaved into an active disulfide-linked heterodimer consisting of an ~60 kDa α -chain and ~30 kDa β -chain. Alternative splicing generates multiple isoforms with truncated domain composition. HGF is highly conserved across mammalian species (>90% sequence identity).

HGF binds heparan sulfate proteoglycans and signals through the receptor tyrosine kinase c-MET. Activation of the HGF/c-MET pathway regulates cell proliferation, motility, and morphogenesis, and is implicated in tumor development and progression. Functionally, HGF promotes epithelial cell scattering and branching morphogenesis, partly through upregulation of integrin $\alpha 2\beta 1$, a collagen I receptor. It also modulates cell-cell adhesion via induction of nectin-1 ectodomain shedding. In thyroid cells, HGF stimulates proliferation and migration while suppressing differentiation and TSH-dependent iodine uptake. Additionally, HGF enhances migration of cardiac stem cells in damaged myocardium.

Specifications

Synonyms:	Hepatocyte Growth Factor, HGF, DFNB39, F-TCF, Hepatopoietin A, HGFB, HPTA, SF
AA Sequence:	QRKRRNTIHE FKKS AKTTLI KIDPALKIKT KKVNTADQCA NRCTR NKGLP FTCKAFVFDK ARKQCLWFPF NSMSSGVKKE FGHEFDLYEN KDYIRNCIIG KGRSYKGTVS ITKSGIKCQP WSSMIPHEHS FLPSSYRGKD LQENYCRNPR GEEGGPWCFT SNPEVRYEVC DIPQCSEVEC MTCNGESYRG LMDHTESGKIC QRWDHQTPHR HKFLPERYPD KGFDDNYCRN PDGQRPWCY TLDPHTRWEY CAIKTCADNT MNDTDVPLET TECIQGQGEG YRGTVNTIWN GIPCQRWDSQ

Rev. 0

	YPHEHDMTPE NFKCKDLREN YCRNPDGSES PWCFTTDPNI RVGYCSQIPN CDMSHGQDCY RGNGKNYMG NLSQTRSG LTC SMWDKNMEDL HRHIFWEPDA SKLNENYCRN PDDDAHGPWC YTGNPLIPWD YCPISRCEGD TTPTIVNLDH PVISCAKTKQ LR VVNGIPTRTN IGWMVSLRYR NKHICGGS LI KESWVL TARQ CFPSRDLKDY EAWLGIHDVH GRGDEKCKQV LNVSQLVYGP EGSDLVLMKL ARPAVLDDFV STIDL PNYGC TIPEKTSCSV YGWGYTGLIN YDGLLRVAHL YIMGNEKCSQ HHRGKVTLNE SEICAGAEKI GSGPCEGDY G GPLVCEQH KM RMVLGVIVPG RGCAIPNRPG IFVRVAYYAK WIHKIILTYK VPQS
Source:	mammalian cell
Molecular Weight:	53.7 kDa (alpha chain), 26 kDa (beta chain)
Purity	> 95%

Quality Control

Endotoxin:	<0.1 ng/μg of protein (<1 EU/μg)
Sterility	No microorganisms
Physical Appearance:	Light yellow to white powder

Formulation

Lyophilized from a 0.2μm filtered solution in 20 mM Tris-HCl pH 7.5, 400 mM NaCl and Dextran as protectant.

Reconstitution

Reconstitute in sterile distilled water or 1x PBS containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL.

Shipping and Storage

Gel pack. Upon receipt, store at -20°C after receiving. Upon reconstitution, store at 2-8°C for up to one week. For maximal stability, aliquot and store at -20°C. Avoid repeated freeze/ thaw cycles.

Usage

rhHGF is for research use only. It is not approved for human or animal use, or for application in clinical or *in vitro* diagnostic procedures.