

Cytokines

Human Recombinant HGF



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Hepatocyte growth factor

Catalog #	78019.1	10 µg
	78019	50 µg
	78019.2	1000 µg

Product Description

Hepatocyte growth factor/scatter factor (HGF/SF) is a pleiotropic growth factor that promotes proliferation, motility, survival, and differentiation. HGF binds and promotes the dimerization and activation of the receptor tyrosine kinase c-MET, and stimulates PI3K/AKT, FAK, JNK, and ERK1/2 signaling (Organ & Tsao). HGF stimulates migration of cells during embryogenesis, induces cell motility and scattering of epithelial cells, and regulates epithelial-mesenchymal transition. It is a chemoattractant for motor neurons, and regulates the development of sensory, sympathetic, parasympathetic, and cortical neurons as well as the proliferation of oligodendrocytes and glial development. Additionally, HGF is cytoprotective and regulates liver growth and regeneration (Nakamura et al.).

Product Information

Alternative Names:	DFNB39, F-TCF, Fibroblast-derived tumor cytotoxic factor, Hepapoinetin A, HPTA, Lung fibroblast-derived mitogen, Scatter factor, SF
Accession Number:	P14210
Amino Acid Sequence:	QRKRRNTIHE FKKSATTLI KIDPALKIKT KKVNTADQCA NRCTRNKGLP FTCKAFVFDK ARKQCLWFPF NSMSSGVKKE FGHEFDLYEN KDYIRNCIIG KGRSYKGTVS ITKSGIKCQP WSSMIPHEHS FLPSSYRGKD LQENYCRNPR GEEGPPWCFT SNPEVRYEVC DIPQCSEVEC MTCNGESYRG LMDHTESGKI CQRWDHQTPH RHKFLPERYP DKGFDNYCR NPDGQPRPWC YTLDPHTRWE YCAIKTCADN TMNDTDVPLE TTECIQQGGE GYRGTVNTIW NGIPCQRWDS QYPHEHDMTP ENFKCKDLRE NYCRNPDGSE SPWCFTTDPN IRVGYCSQIP NCDMSHGQDC YRNGNKNYMG NLSQTRSGLT CSMWDKNMED LHRHIFWEPD ASKLNENYCR NPDDDAHGPW CYTGNPLIPW DYCPISRCEG DTTPTIVNLD HPVISCATK QLRVVNGIPT RTNIGWMVSL RYRNKHICGG SLIKESWVLT ARQCFPSRDL KDYEAWLGIH DVHGRGDEK KQVLNVSQVLV YGPEGSDLVL MKLARPAVLD DFVSTIDLPN YGCTIPEKTS CSVYGGWGYTG LINYDGLLRV AHLIYMGNEK CSQHHRGKVT LNESEICAGA EKIGSGPCEG DYGGPLVCEQ HKMRMVLGVI VPGRGCAIPN RPGIFVRVAY YAKWIHKIIL TYKVPQS
Predicted Molecular Mass:	88 - 90 kDa (single chain)
Species:	Human
Cross Reactivity:	Mouse, Rat
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	CHO

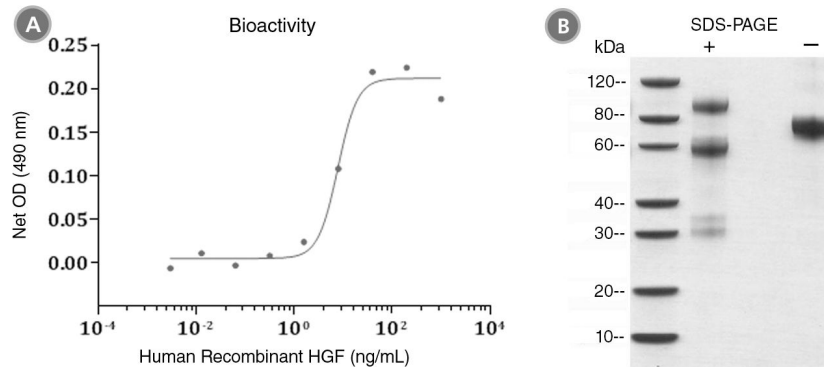
Specifications

Activity:	The specific activity is $\geq 1 \times 10^5$ units/mg ($EC_{50} \leq 10$ ng/mL) as determined by a cell proliferation assay using 4MBr-5 cells.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage:	Store at -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water or phosphate-buffered saline to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. As a general guide, do not store at 2 - 8°C for more than 1 week or at -20°C for more than 2 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant HGF was tested by its ability to promote the proliferation of 4MBr-5 cells. Cell proliferation was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is 7.2 ng/mL.

(B) 5 µg of Human Recombinant HGF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant HGF has a predicted molecular mass of 88 - 90 kDa (single chain), 59 - 61 kDa (alpha chain), or 30 - 34 kDa (beta chain).

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

- Nakamura T et al. (2011) Hepatocyte growth factor twenty years on: Much more than a growth factor. *J Gastroenterol Hepatol* 26 Suppl 1: 188–202.
- Organ SL & Tsao M-S. (2011) An overview of the c-MET signaling pathway. *Ther Adv Med Oncol* 3(1 Suppl): S7–S19.

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