

Human Recombinant HGF (E. coli-expressed), ACF

Hepatocyte growth factor, animal component-free

Catalog #100-1727	100 µg
Catalog #100-1728	2 x 500 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
Predicted Molecular Mass:	20 kDa
Species:	Human
Product Formulation:	Lyophilized from acetonitrile, trifluoroacetic acid.
Source:	E. coli
Purity:	≥ 98%

Specifications

Activity:	The specific activity is approximately 1×10^6 units/mg (EC50 ~ 0.99 ng/mL), as determined by a quantitative Promega serum response element luciferase reporter assay in transfected HEK293T cells.
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 0.1 EU/µg protein.

Preparation and Storage

Stability and Storage:

Store at -20 to -80°C. Stable as supplied for 12 months from date of receipt.

Preparation:

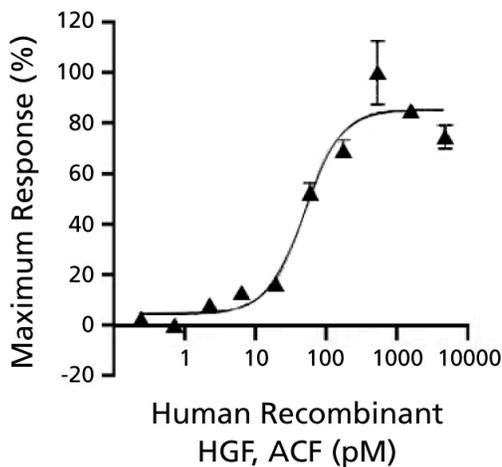
Centrifuge vial before opening. Reconstitute the product in 10 mM hydrochloric acid to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data

A

Bioactivity



B

SDS-PAGE

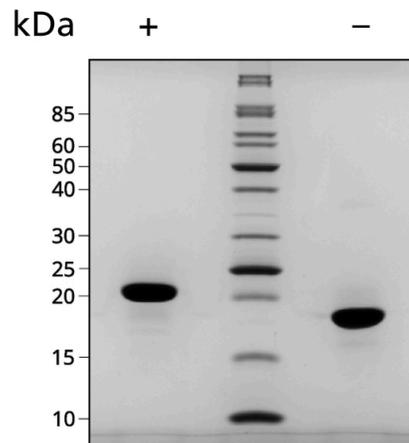


Figure 1. Biological Activity and Molecular Mass of Human Recombinant HGF (E. coli-expressed), ACF

(A) The biological activity of Human Recombinant HGF (E.coli-expressed), ACF was tested by its ability to induce MAP/ERK signaling in transfected HEK293T cells. Cells were treated with a serial dilution of HGF for 6 hours, and the activity was quantified by a luciferase reporter assay. The EC50 is defined as the effective concentration of the growth factor at which MAP/ERK activity is at 50% of maximum. The EC50 in the above example is ≤ 49.6 pM (0.99 ng/mL). (B) 7 μ g of Human Recombinant HGF (E.coli-expressed), ACF 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 21 kDa in reducing conditions and 18 kDa in non-reducing conditions.

Related Products

For a complete list of cytokines or peptide pools, 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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