

Product Information

Hepatocyte Growth Factor human, recombinant expressed in mouse NSO cells

Catalog Number **H9661**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

Synonyms: Hepatocyte Growth Factor human,
Hepatopoietin A, HGF, Scatter Factor

Product Description

Hepatocyte Growth Factor (HGF) is a multifunctional cytokine that promotes mitogenesis, migration, invasion, and morphogenesis.¹ It is a potent mitogen, stimulating the growth of hepatocytes, renal tubular epithelial cells, epidermal keratinocytes, epidermal melanocytes, Mv1Lu (mink lung epithelial cells), and BALB/MK (mouse keratinocytes).² HGF inhibits the growth of B6/F1 (mouse melanoma) cells, KB (human squamous carcinoma) cells, and HepG2 (human hepatoma) cells.² HGF is the ligand for the tyrosine kinase receptor encoded by the *met* proto-oncogene.

The hepatocyte growth factor gene spans ~ 70 kb and consists of 18 exons interrupted by 17 introns.² The organization of the human HGF gene is highly homologous to that of human plasminogen.³ HGF maps to the long arm of human chromosome 7, 7q21.1.^{4,5}

Recombinant, human Hepatocyte Growth Factor (HGF) is produced from the 728 amino acid residue variant of the human pre-pro-HGF protein⁶ and expressed in a mouse myeloma cell line NSO. It is supplied as $\sim 5\text{ }\mu\text{g}$ of protein lyophilized from a $0.2\text{ }\mu\text{m}$ filtered solution of phosphate buffered saline (PBS) containing $50\text{ }\mu\text{g}$ of bovine serum albumin (BSA) per $1\text{ }\mu\text{g}$ of cytokine.

Note: This product, the NSO-derived recombinant HGF preparation, is greater than 95% heterodimeric HGF. The insect cell-derived recombinant HGF preparation (Catalog Number H1404) is a mixture of predominantly single chain HGF, as well as some heterodimeric HGF. Studies have shown the single chain HGF and heterodimeric HGF are equally active in *in vitro* assays due either to a protease produced by the cell culture or to the presence of an apparently ubiquitous protease in serum.

Molecular mass: 70–80 kDa
(SDS-PAGE, non-reducing conditions)

Recombinant, human HGF is measured by its ability to stimulate ^3H -thymidine incorporation in the HGF responsive monkey epithelial cell line, 4MBr-5.⁷

Typical ED₅₀ value: 20–40 ng/ml

The ED₅₀ is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Purity: >95% (SDS-PAGE, visualized by silver stain)

Endotoxin level: <1.0 EU per $1\text{ }\mu\text{g}$ of the cytokine
[LAL (Limulus ameocyte lysate) method]

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of $\geq 1\text{ }\mu\text{g/ml}$.

Storage/Stability

Store the product at $-20\text{ }^{\circ}\text{C}$.

Upon reconstitution, store at $2\text{--}8\text{ }^{\circ}\text{C}$ for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a "frost-free" freezer.

References

1. Jiang, W.G., and Hiscox, S., *Histol. Histopathol.*, **2**, 537 (1997).
2. Nakamura, T., et al., *Progress in Growth Factor Research*, **3**, 67 (1991).
3. Petersen, T., et al., *J. Biol. Chem.*, **265**, 6104 (1990).
4. Weidner, K., et al., *Proc. Natl. Acad. Sci. USA*, **88**, 7001 (1991).
5. Fukuyama, R., et al., *Genomics*, **11**, 410 (1991).
6. Nakamura, T., et al., *Nature*, **342**, 440 (1989).
7. Rubin, J.S., et al., *Proc. Natl. Acad. Sci. USA*, **88**, 415 (1991).

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