

# Recombinant Human Hepatocyte Growth Factor (rh HGF)

source: Insect cells

**Description:** Human Hepatocyte Growth Factor (HGF), also known as scatter factor, is a pleiotrophic cytokine that shows homology to the enzymes of the blood coagulation cascade. It stimulates the motility and invasion of several cancer cell types and can induce angiogenesis. Recently HGF was found to be identical to scatter factor, a fibroblast-derived factor promoting the dissociation of epithelial and vascular endothelial cell colonies in monolayer cell cultures by stimulating cell migration. HGF is synthesized as a biologically inactive single chain precursor, which is cleaved by a specific, extracellular serum serine protease to a fully active heterodimer. This mature, biologically active HGF consists of a disulfide-linked alpha-beta heterodimer of the two cleavage products. Previous studies have shown that single chain and heterodimeric HGF are equally active *in vitro* assay systems due to either production of the serine protease in cell culture or the presence of the ubiquitous protease in serum.

All biological responses induced by HGF are elicited by binding to its transmembrane tyrosine kinase receptor, which is encoded by the MET proto-oncogene. After autophosphorylation of the receptor different cytoplasmatic effectors are activated that bind to the same multifunktional docking site of the receptor. HGF function is essential for normal development. Knockout studies have demonstrated that both ligand and receptor deficient mice display an embryonic lethal phenotype. Hepatocytes have to be primed before they can fully respond to HGF. This priming requires cytokines as TNF and IL-6. Recent studies have suggested that HGF synergizes with basic FGF in the induction of angiogenesis.

**Description:** Recombinant human Hepatocyte Growth Factor produced in insect cells is a heterodimer, non-glycosylated, polypeptide chain consisting an  $\alpha$ -chain of 463 amino acids and  $\beta$ -chain of 234 having a total molecular mass of 78.0 KDa.

**Source:** *Insect cells*

**Physical Appearance:** Sterile filtered white lyophilized (freeze-dried) powder.

**Formulation:** Lyophilized from a concentrated solution containing 50mM acetic acid  
The aliquots of 1 $\mu$ g and 2 $\mu$ g contain Trehalose 5% (w/vol) for better recovery

**Reconstitution:** The lyophilized human HGF is soluble in water and most aqueous buffers. The lyophilized powder can be reconstituted in water to a concentration of 100 $\mu$ g/ml. Further dilutions should be made into buffer containing protein or medium containing serum.

**Stability:** The lyophilized HGF, though stable at room temperature, is best stored desiccated below 0°C. Reconstituted should be stored in working aliquots at -20°C to -70°C. Avoid repeated freeze-thaw cycles!

**Purity:** 90% by SDS-PAGE and visualised by silver stain.

**Endotoxicity:** < 0.1ng per  $\mu$ g of HGF

**Biological Activity:** Assayed for scattering activity in the MDCK cell assay the ED<sub>50</sub> is typically at 0.5 - 1.0 ng/ml.

This material is offered for **research use only**. Not for use in human. For in vitro use only. ImmunoTools will not be held responsible for patent infringement or other violations that may occur with the use of our products.

<i>small</i>	2 $\mu$ g	Cat.N°	11344412
<i>medium</i>	10 $\mu$ g	Cat.N°	11344413
<i>large</i>	50 $\mu$ g	Cat.N°	11344415
<i>x-large</i>	250 $\mu$ g	Cat.N°	11344417

**ImmunoTools** Excellent Quality - Advantageously priced

Gladiolenweg 2; 26169 Friesoythe; Germany  
phone:+49-(0)4491-400997, fax:+49-(0)4491-400998, [info@immunotools.com](mailto:info@immunotools.com)  
[www.immunotools.com](http://www.immunotools.com)