

## HGF Protein, Rat, Recombinant

### General Information

Synonyms:	hepatocyte growth factor (hepapoietin A;scatter factor)
Protein Construction:	A DNA sequence encoding the rat HGF (NP_058713.1)(Met1-Leu728) was expressed and purified. Predicted N terminal: Gln 33
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	A6K5E8
Molecular Weight:	79.3 kDa (predicted); 92 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Measured in a cell proliferation assay using Mv-1-1u mink lung epithelial cells. The ED50 for this effect is typically 1-6 ng/mL.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Hepatocyte growth factor, also known as HGF, contains 4 kringle domains, 1 PAN domain, and 1 peptidase S1 domain. It belongs to the peptidase S1 family, plasminogen subfamily. The hepatocyte growth factor is secreted by mesenchymal cells as a single inactive polypeptide and is cleaved by serine proteases into a 69-kDa alpha-chain and 34-kDa beta-chain. A disulfide bond between the alpha and beta chains produces the active, heterodimeric molecule. The hepatocyte growth factor regulates cell growth, cell motility, and morphogenesis by

activating a tyrosine kinase signaling cascade after binding to the proto-oncogenic c-Met receptor, and acts as a multi-functional cytokine on cells of mainly epithelial origin. Its ability to stimulate mitogenesis, cell motility and matrix invasion give it a central role in angiogenesis, tumorigenesis, and tissue regeneration. HGF is a potent mitogen for mature parenchymal hepatocyte cells, seems to be an hepatotrophic factor, and acts as a growth factor for a broad spectrum of tissues and cell types. HGF has no detectable protease activity. Defects in hepatocyte growth factor are the cause of deafness autosomal recessive type 39. A form of profound prelingual sensorineural hearing loss. Sensorineural deafness results from damage to the neural receptors of the inner ear, the nerve pathways to the brain, or the area of the brain that receives sound information. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

### Reference

Naldini L, et al. (1991) Scatter factor and hepatocyte growth factor are indistinguishable ligands for the MET receptor. *EMBO J.* 10(10):2867-78.

Comoglio, et al. (1993) Structure, biosynthesis and biochemical properties of the HGF receptor in normal and malignant cells. 65:131-65.

HAhn W, et al. (2011) Enhanced cardioprotective effects by coexpression of two isoforms of hepatocyte growth factor from naked plasmid DNA in a rat ischemic heart disease model. *The Journal of Gene Medicine.* 13(10):549-55.

Bottaro DP, et al. (1991) Identification of the hepatocyte growth factor receptor as the c-met proto-oncogene product. *Science.* 251(4995):802-4.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E\_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481