

**Background**

Hepatocyte growth factor/scatter factor (HGF/SF) is a paracrine cellular growth, motility and morphogenic factor. It is secreted by mesenchymal cells and targets and acts primarily upon epithelial cells and endothelial cells, but also acts on haemopoietic progenitor cells. It has been shown to have a major role in embryonic organ development, in adult organ regeneration and in wound healing. HGF regulates cell growth, cell motility and morphogenesis by activating a tyrosine kinase signaling cascade after binding to the proto-oncogenic c-Met receptor (1). HGF is secreted by mesenchymal cell and acts as a multifunctional cytokine on cells of mainly epithelial origin. Its ability to stimulate mitogenesis, cell motility, and matrix invasion gives it a central role in angiogenesis, tumorigenesis, and tissue regeneration. It is secreted as a single inactive polypeptide and is cleaved by serine protease 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 protein belongs to the plasminogen subfamily of S1 peptidases but has no detectable protease activity (2). Human HGF plasmid DNA therapy of cardiomyocytes is being examined as a potential treatment for coronary artery disease as well as treatment for the damage that occurs to the heart after myocardial infarction (3, 4). HGF may further play a role as an indicator for prognosis of chronicity for Chikungunya virus induced arthralgia. High HGF levels correlate with high rate of recovery (5).

**Reference**

1. DP Bottaro et al. (1991) *Science* 251 (4995) : 802.
2. T Nakamura et al. (1989) *Nature* 342 : 440.
3. ZJ Yang et al. (2008) *Molecular Biology Reports* 36(6) : 1323.
4. W Hahn et al. (2011) *The Journal of Gene Medicine* 13 (10) : 549.
5. A Chow et al. (2011) *J Infect. Dis.* 203(2) : 149.

**DECLARATION**

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

**FOR LABORATORY RESEARCH USE ONLY  
NOT FOR USE IN HUMANS AND ANIMALS**



## Recombinant Bovine HGF Protein

Catalog Number: GR104265

### Description

**Source:** Chinese Hamster Ovary cell derived

**Composition:** Gln31 –Thr724

**Accession #** NP\_001026921

**Predicted Molecular Mass:** 77 kDa (monomer)

### Specifications

**Activity** Measured by its ability to induce IL-11 secretion by Saso-2 human osteosarcoma cells. Hjertner O et al. (1999) Blood, 94:3883. The ED50 for this effect is typically 0.2-0.6 ng/mL.

**Endotoxin Level:** < 1.0 EU per 1 µg of the protein by the LAL method.

**Purity:** > 96%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation:** Lyophilized from a 0.2 µm filtered solution in 20 mM NaH<sub>2</sub>PO<sub>4</sub> and 0.5 M NaCl with 50 µg BSA per µg as a carrier protein.

### Preparation and Storage

**Reconstitution:** Reconstitute at 10-50 µg/mL in sterile PBS containing 1 mg/ml of human or serum albumin.

**Shipping** The product is shipped at ambient temperature or with wet ice. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage:** Use a manual defrost freezer and avoid repeated freeze thaw cycles.

- 6 months, -20 °C as supplied.
- 3 months, -20 to -70°C under sterile conditions after reconstitution.

### Related products

1. GR239031 96-well microplate sealer plastic, pack of 100
2. GR238016 50 ml Reagent Reservoir, 100/case, 5 packs/case (pack of 20)
3. GR238004 Tissue Culture 96-well Microplate, individually packed, Case of 50
4. GR238002 Microplate 12x8-Well Strip High Binding, Case of 50
5. GR238003 Microplate 12x8-Well Strip Medium Binding, Case of 50
6. GR238032 42592 Costar Stripwell Microplate 1 x 8 Flat Bottom, High Binding, Case of 100
7. GR238001 468667 Thermo Microplate 12x8-Well Strip Nunc Maxisorp F8, Case of 60
8. GR238019 1.5 ml Microcentrifuge tube with screw cap and free-standing, pack of 500