

## HGF Protein, Human, Recombinant (His)

### General Information

Synonyms:	Scatter factor;Hepatocyte growth factor;HGF;SF;Hepatopoietin-A;HPTA
Protein Construction:	Gln32-Ser728
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P14210
Molecular Weight:	32-38&50-65 KDa (reducing condition)
AA Sequence:	Gln32-Ser728

### QC Testing

Biological Activity:	Measured by its ability to induce IL-11 secretion by Saos-2 human osteosarcoma cells. The ED50 for this effect is 0.3-1.5 ng/ml. (QC verified)
Purity:	Greater than 95% as determined by reducing SDS-PAGE. Greater than 95% as determined by SEC-HPLC.
Endotoxin:	< 0.001 ng/μg (0.01 EU/μg) as determined by LAL test.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris-HCl, 500 mM NaCl, pH 8.0.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

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

HGF, is a pleiotropic protein in the Plasminogen subfamily of S1 peptidases and contains 4 kringle domains, 1 PAN domain and 1 peptidase S1 domain. HGF is secreted as an inactive 728 amino acid (aa) single chain propeptide. It is cleaved after the fourth Kringle domain by a serine protease to form bioactive disulfide-linked HGF with a 60 kDa alpha and 30 kDa beta chain. HGF binds heparan-sulfate proteoglycans and the widely expressed receptor

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tyrosine kinase, HGF R/c-MET. HGF regulates epithelial morphogenesis by inducing cell scattering and branching tubulogenesis. It can also alter epithelium morphology by the induction of nectin-1 alpha ectodomain shedding, an adhesion protein component of adherens junctions. HGF regulates cell growth, cell motility, and morphogenesis by activating a tyrosine kinase signaling cascade after binding to the proto oncogenic c-Met receptor. HGF is secreted by mesenchymal cells and acts as a multi-functional 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.

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