

### General Information

Synonyms	F-TCF; hepatocyte growth factor (hepatopoietin A; scatter factor); Hepatopoeitin-A; Hepatopoietin A; HGF
Accession #	Q08048
Source	Human embryonic kidney cell, HEK293-derived mouse HGF protein Gln33-Arg495 (alpha) & Val496-Leu728 (beta)
Predicted Molecular weight	79.3kDa

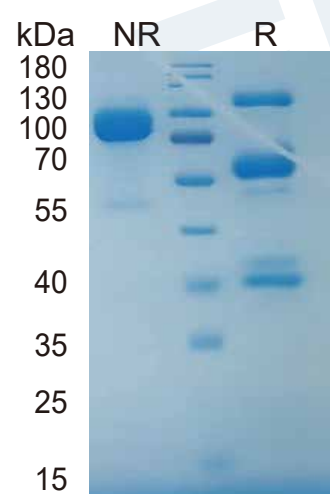
### Components and Storage

Formulation	Solution protein. Dissolved in sterile PBS buffer . This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
Storage and Stability	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 °C as supplied.
Shipping	Shipping with dry ice

### Quality

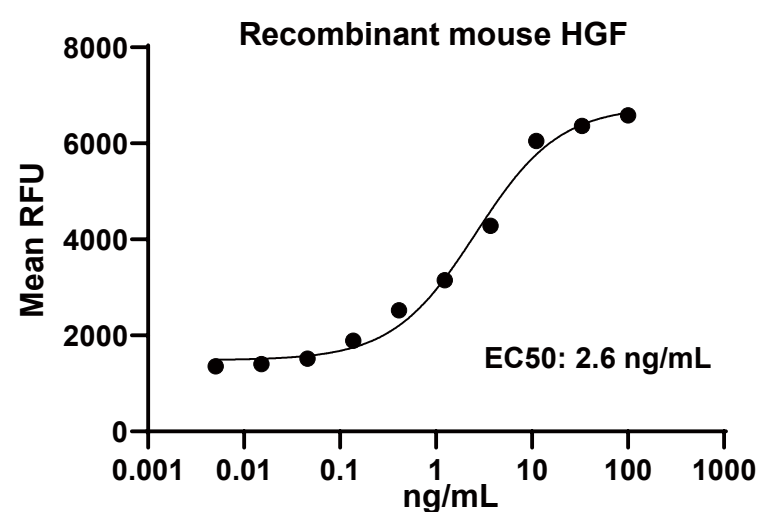
Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured in a cell proliferation assay using mIMCD-3 mouse epithelial cells. The EC50 for this effect is 1-10 ng/mL.

### SDS-PAGE



2 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

### Bioactivity



Recombinant mouse HGF (Catalog # MF-2014) stimulates cell proliferation of the mIMCD-3 mouse epithelial cells.

### Background

**Hepatocyte Growth Factor(HGF)**, also known as Scatter Factor and Hepatopoietin A, is a pleiotropic protein in the Plasminogen subfamily of S1 peptidases. It is a multidomain molecule that includes an N-terminal PAN/APPLE-like domain, four Kringle domains, and a serine proteinase-like domain that has no detectable protease activity (1 - 5). Mouse 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. Alternate splicing generates an isoform that lacks the peptidase and the second, third, and fourth Kringle domains. Mouse HGF shares 91% - 95% aa sequence identity with bovine, canine, feline, human, and rat HGF. HGF binds heparan-sulfate proteoglycans and the widely expressed receptor tyrosine kinase, HGF R/c-MET (6, 7). HGF-dependent c-MET activation is implicated in the development of many human cancers (8). HGF regulates epithelial morphogenesis by inducing cell scattering and branching tubulogenesis (9, 10). HGF induces the up-regulation of integrin alpha 2 beta 1 in epithelial cells by a selective increase in alpha 2 gene transcription (11). This integrin serves as a collagen I receptor, and its blockade disrupts epithelial cell branching tubulogenesis (11, 12). HGF can also alter epithelium morphology by the induction of nectin-1 alpha ectodomain shedding, an adhesion protein component of adherens junctions (13). In the thyroid, HGF induces the proliferation, motility, and loss of differentiation markers of thyrocytes and inhibits TSH-stimulated iodine uptake (14).

### Reference

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