## DESCRIPTION

**Source**
Mouse myeloma cell line, NS0
Gln33-Arg495 (alpha) & Val496-Leu728 (beta)
Accession # Q53WS5

**N-terminal Sequence Analysis**
No results obtained: Gln33 predicted (alpha) & Val496 (beta)

**Structure / Form**
Disulfide-linked heterodimer

**Predicted Molecular Mass**
53.4 kDa (alpha-chain), 26 kDa (beta-chain)

## SPECIFICATIONS

**SDS-PAGE**
60 kDa and 33 kDa, reducing conditions

**Activity**
Measured in a cell proliferation assay using mTMC-3 mouse epithelial cells. The ED₅₀ for this effect is typically 10-30 ng/mL.
Measured by its ability to bind Recombinant Mouse HGF R/c-MET Fc Chimera (Catalog # 7065-ME) in a functional ELISA with an estimated Kᵦ <0.2 nM.

**Endotoxin Level**
<0.10 EU per 1μg of the protein by the LAL method.

**Purity**
>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation**
Lyophilized from a 0.2μm filtered solution in PBS. See Certificate of Analysis for details.

## PREPARATION AND STORAGE

**Reconstitution**
Reconstitute at 100μg/mL in sterile PBS.

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

**Stability & Storage**
Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

## BACKGROUND

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 PAP/APPLE-like domain, four Kringle domains, and a serine protease-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 protease 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 α2β1 in epithelial cells by a selective increase in α2 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-1a 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). HGF promotes the motility of cardiac stem cells in damaged myocardium (15).

## REFERENCES