

Recombinant Human HGF

Catalog Number: 871-HGF



OrganRegen, INC.

Creating Solutions for Organoid Cultures

DESCRIPTION

Background:

HGF, is a pleiotropic protein in the plasminogen subfamily of S1 peptidases. Human 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 tyrosine kinase, HGF R/c-MET [1, 2]. HGF-dependent c-MET activation is implicated in the development of many human cancers [3]. HGF regulates epithelial morphogenesis by inducing cell scattering and branching tubulogenesis. 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. HGF promotes the motility of cardiac stem cells in damaged myocardium [4].

Source:

Chinese Hamster Ovary cell line

Protein Construction:

A DNA sequence encoding the amino acids (Gln32-Ser728) of human HGF (Accession Number: P14210) was expressed.

Synonyms:

Hepatopoietin A; HGF; HGFB; HPTA; HPTAhepatocyte growth factor

SPECIFICATIONS

Purity:

≥ 95%, by SDS-PAGE visualized with quantitative densitometry by Coomassie® Blue Staining.

Biological Activity:

Measured in CellTiter-Glo 3D Cell Viability Assay using human liver ductal organoids. The ED50 for this effect is 10-20 ng/ml.

Endotoxin Level:

<0.10 EU per 1 µg of the protein by the LAL method

Calculated Molecular Weight:

53.7 kDa (alpha chain), 26 kDa (beta chain)

SDS-PAGE:

60 kDa, and 33-34 kDa, reducing conditions

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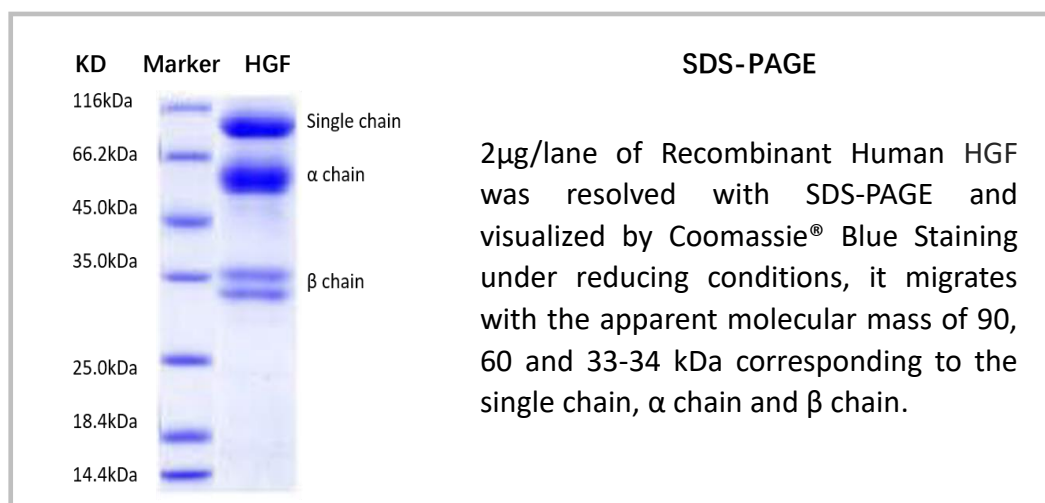
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DATA



FORMULATION AND STORAGE

Formulation:

The product is Lyophilized from a 0.22µm filtered solution in PBS.

Shipping:

The product is shipped on ice. Upon receipt, store it immediately as methods recommended below.

Reconstitution:

Reconstitute in sterile PBS buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL.

Stability & Storage:

24 months, -20 to -70 °C, under powder state;

12 months, -20 to -70 °C, under sterile conditions after reconstitution;

2 month, 2 to 8 °C under sterile conditions after reconstitution;

avoid repeated freeze-thaw cycles.

References:

1. Gherardi, E., et al., *Functional map and domain structure of MET, the product of the c-met protooncogene and receptor for hepatocyte growth factor/scatter factor*. Proc Natl Acad Sci U S A, 2003. 100(21).
2. Mizuno, K., et al., *Hairpin loop and second kringle domain are essential sites for heparin binding and biological activity of hepatocyte growth factor*. J Biol Chem, 1994. 269(2).
3. Corso, S., P. Comoglio, and S. Giordano, *Cancer therapy: can the challenge be MET?* Trends in molecular medicine, 2005. 11(6).
4. Urbanek, K., et al., *Cardiac stem cells possess growth factor-receptor systems that after activation regenerate the infarcted myocardium, improving ventricular function and long-term survival*. Circ Res, 2005. 97(7).