Recombinant Human Hepatocyte Growth Factor, Insect Cells Derived (rHuHGF, Insect Cell)

PrimeGene Technical DataSheet

Catalog Number:	105-39I
Source:	*Insect Cell*
Molecular Weight:	Approximately 79.6 kDa on SDS-PAGE under reducing conditions, containing 697 amino acids.
Size:	10 μg/100 μg/500 μg/1 mg
Sequence:	QRKRRNTIHEFKKSAKTTLIKIDPALKIKTKKVNTADQCANRCTRNKGLPFTCKAFVFDKAR KQCLWFPFNSMSSGVKKEFGHEFDLYENKDYIRNCIIGKGRSYKGTVSITKSGIKCQPWSSMI PHEHSFLPSSYRGKDLQENYCRNPRGEEGGPWCFTSNPEVRYEVCDIPQCSEVECMTCNGES YRGLMDHTESGKICQRWDHQTPHRHKFLPERYPDKGFDDNYCRNPDGQPRPWCYTLDPHT RWEYCAIKTCADNTMNDTDVPLETTECIQGQGEGYRGTVNTIWNGIPCQRWDSQYPHEHD MTPENFKCKDLRENYCRNPDGSESPWCFTTDPNIRVGYCSQIPNCDMSHGQDCYRGNGKNY MGNLSQTRSGLTCSMWDKNMEDLHRHIFWEPDASKLNENYCRNPDDDAHGPWCYTGNPLI PWDYCPISRCEGDTTPTIVNLDHPVISCAKTKQLRVVNGIPTRTNIGWMVSLRYRNKHICGGS LIKESWVLTARQCFPSRDLKDYEAWLGIHDVHGRGDEKCKQVLNVSQLVYGPEGSDLVLM KLARPAVLDDFVSTIDLPNYGCTIPEKTSCSVYGWGYTGLINYDGLLRVAHLYIMGNEKCSQ HHRGKVTLNESEICAGAEKIGSGPCEGDYGGPLVCEQHKMRMVLGVIVPGRGCAIPNRPGIF VRVAYYAKWIHKIILTYKVPQS
Purity:	> 95% by SDS-PAGE analyses.
Biological Activity:	Measured by its ability to induce IL-11 secretion by Saos 2 human osteosarcoma cells. The ED_{50} for this effect is equal to or less than 4.00 ng/mL.
Physical Appearance:	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation:	Lyophilized from a 0.2 μm filtered solution in PBS, 5% Trehalose, 0.02% Tween-20, pH 7.0.
Endotoxin:	Less than 0.1 EU/μg of rHuHGF, Insect Cell is as determined by LAL method.
Reconstitution:	Prior to opening, it is recommended to centrifuge the vial briefly to bring the contents down the bottom. Reconstitute in PBS to a concentration of 0.1-0.33 mg/mL. If animal-origin-free condition is expected in your product, then sterile distilled water is recommended. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.
Shipping:	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage:	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● A minimum of 12 months from date of receipt, when stored at ≤ -20 °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.
Usage:	This material is offered by Shanghai PrimeGene Bio-Tech for research, laboratory, or further evaluation purposes. **NOT FOR HUMAN USE**.

Human HGF

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. 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. Alternate splicing generates human HGF isoforms that lack the proteinase-like domain and different numbers of the Kringle domains. Human HGF shares 91%-94% aa sequence identity with bovine, canine, feline, mouse, and rat HGF. HGF binds heparan-sulfate proteoglycans and the widely expressed receptor tyrosine kinase, HGF R/c-MET. HGF-dependent c-MET activation is implicated in the development of many human cancers. HGF regulates epithelial morphogenesis by inducing cell scattering and branching tubulogenesis. HGF induces the up-regulation of integrin alpha 2 beta 1 in epithelial cells by a selective increase in *alpha 2* gene transcription. This integrin serves as a collagen I receptor, and its blockade disrupts epithelial cell branching tubulogenesis. HGF can also alter epithelium morphology by the induction of nectin-1 alpha ectodomain shedding, an adhesion protein component of adherens junctions. 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.

Rev. 12/08/2023 V.0