

DESCRIPTION

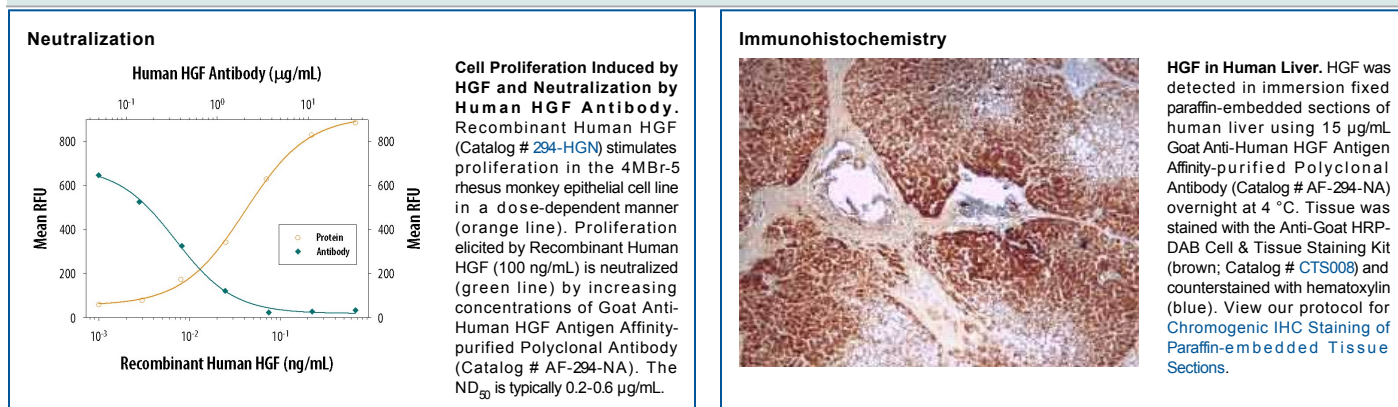
Species Reactivity	Human
Specificity	Detects human HGF in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant canine HGF is observed and less than 5% cross-reactivity with recombinant mouse HGF is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf21-derived recombinant human HGF (R&D Systems, Catalog # 294-HG) Accession # P14210
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human HGF (Catalog # 294-HG)
Immunohistochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize HGF-induced proliferation in the 4MBr-5 rhesus monkey epithelial cell line. The Neutralization Dose (ND ₅₀) is typically 0.2-0.6 µg/mL in the presence of 100 ng/mL Recombinant Human HGF.	

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 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 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 α and 30 kDa β 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 upregulation 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 α 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.