

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human HGF in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant mouse HGF is observed. In Western blots, no cross-reactivity with recombinant canine 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 Gln32-Ser728 (Asp384Asn, Asp416Asn, Leu622Ser, His645Arg, Val678Ile) 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. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

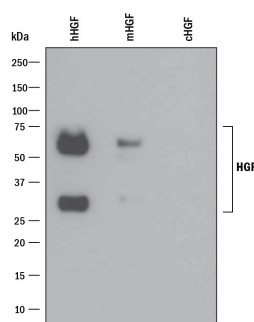
APPLICATIONS

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	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize HGF-induced IL-11 secretion in the Saos-2 human osteosarcoma cell line. Hjertner, O. et al. (1999) Blood 94:3883. The Neutralization Dose (ND ₅₀) is typically 0.01-0.06 µg/mL in the presence of 3 ng/mL Recombinant Human HGF.	

DATA

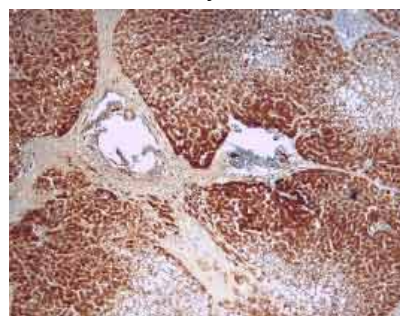
Western Blot



Detection of Recombinant Human HGF by Western Blot.

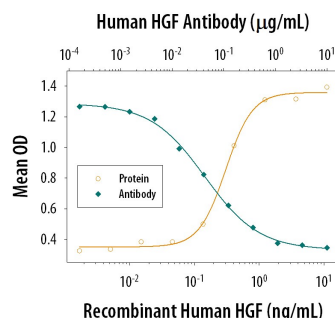
Western blot shows 25 ng of Recombinant Human HGF (Catalog # Catalog # [294-HG](#)), Recombinant Mouse HGF (Catalog # Catalog # [2207-HG](#)) and Recombinant Canine HGF (Catalog # Catalog # [3386-HG](#)). PVDF Membrane was probed with 0.1 µg/mL of Goat Anti-Human HGF Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-294-NA) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # [HAF109](#)). Specific bands were detected for HGF at approximately 30 and 60 kDa (as indicated). This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 3](#).

Immunohistochemistry



HGF in Human Liver. HGF was detected in formalin fixed paraffin-embedded sections of human liver using 15 µg/mL Goat Anti-Human HGF Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-294-NA) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # [CTS008](#)) and counterstained with hematoxylin (blue). View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

Neutralization



IL-11 Secretion Induced by HGF and Neutralization by Human HGF Antibody.

Recombinant Human HGF induces IL-11 secretion in the Saos-2 human osteosarcoma cell line. The dose-dependent response (orange line) is measured by the Human IL-11 Duoset (Catalog # Catalog # [DY218](#)). Under these conditions, IL-11 secretion elicited by HGF is neutralized (green line) by increasing concentrations of Goat Anti-Human HGF Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-294-NA). The ND₅₀ is typically 0.01-0.06 µg/mL.

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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <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.