

DESCRIPTION

Species Reactivity	Canine
Specificity	Detects canine HGF in Western blots. In Western blots, approximately 50% cross-reactivity with recombinant human (rh) HGF is observed, approximately 15% cross-reactivity with recombinant mouse HGF is observed, and less than 3% cross-reactivity with rhMSP is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant canine HGF Arg28-Arg494 (Lys266Gln, Trp321Arg, Leu458Pro) (α chain) & Val495-Ser730 (Ile693Thr) (β chain) Accession # Q867B7
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. 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 Canine HGF (Catalog # 3386-HG)

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 (1-4). Canine HGF is secreted as an inactive 699 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. A variant of HGF with a 5 aa deletion in the first Kringle domain has been described in canine and other species (5). Canine HGF shares 97%, 99%, 93%, 93%, and 89% aa sequence identity with bovine, feline, human, mouse, and rat HGF, respectively. 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 upregulation 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-1α ectodomain shedding, an adhesion protein component of adherens junctions (13). In the thymus, 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:

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