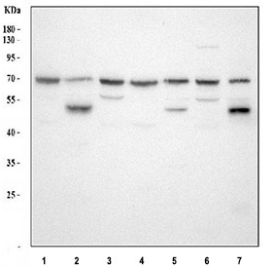
HGF Antibody / Hepatocyte growth factor (R30164)

Catalog No.	Formulation	Size
R30164	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
Gene ID	15234
Applications	Western Blot : 0.5-1ug/ml
Limitations	This HGF antibody is available for research use only.



Western blot analysis using HGF antibody. Lane 1: human hepatocellular carcinoma tumor tissue (HCCT) lysates; Lane 2: human hepatocellular carcinoma paracancerous tissue (HCCP) lysates; Lane 3: human HepG2 whole cell lysates; Lane 4: human HUH7 whole cell lysates; Lane 5: rat liver tissue lysates; Lane 6: rat RH35 whole cell lysates; Lane 7: mouse liver tissue lysates. Predicted molecular weight of the HGF single-chain precursor is ~83 kDa. A predominant band is observed at ~70 kDa, consistent with proteolytic processing of HGF to the active form, with additional bands around ~50 kDa and or ~60 kDa in some samples consistent with heterogeneous processing and glycosylation-dependent mobility shifts.

Description

HGF antibody targets Hepatocyte Growth Factor, encoded by the HGF gene. Hepatocyte Growth Factor is a multifunctional, secreted cytokine that plays a central role in regulating cell growth, survival, motility, and tissue morphogenesis. HGF is synthesized primarily by mesenchymal cells and functions in a paracrine manner on neighboring epithelial and endothelial cells. It is best known as the ligand for the MET receptor tyrosine kinase, through which it exerts wide-ranging biological effects during development, tissue repair, and disease.

Functionally, Hepatocyte Growth Factor is a potent mitogen and motogen that stimulates cell proliferation, migration, and morphogenic differentiation. Binding of HGF to the MET receptor activates multiple downstream signaling pathways, including PI3K-AKT, MAPK, and STAT pathways, which collectively promote cell survival and coordinated tissue responses. HGF signaling is particularly important in processes such as epithelial branching morphogenesis, wound healing, and regeneration following tissue injury. An HGF antibody supports studies focused on growth factor signaling and tissue remodeling mechanisms.

HGF expression is widespread, with prominent production in stromal fibroblasts, smooth muscle cells, and endothelial cells. High levels of HGF activity are observed in organs with strong regenerative capacity, including liver, kidney, lung, and gastrointestinal tract. Under physiological conditions, HGF signaling is tightly regulated and transiently induced following injury. This controlled activation ensures effective repair while limiting excessive or inappropriate cell proliferation. The spatial separation between HGF-producing cells and MET-expressing target cells underscores its role as a key mediator of stromal-epithelial communication.

From a disease-relevance perspective, dysregulated HGF-MET signaling has been implicated in numerous pathological conditions. Elevated HGF expression or aberrant MET activation has been associated with cancer progression, invasion, and metastasis in a wide range of solid tumors. HGF has also been studied in fibrosis, inflammatory disorders, and cardiovascular disease, where altered growth factor signaling can contribute to abnormal tissue remodeling. These associations have positioned HGF as an important molecule in studies of tumor microenvironment, regenerative medicine, and growth factor-driven disease mechanisms.

At the molecular level, Hepatocyte Growth Factor is synthesized as a single-chain precursor of approximately 80 to 90 kDa, which is proteolytically processed into a biologically active heterodimer composed of alpha and beta chains linked by disulfide bonds. Glycosylation and processing state can influence apparent molecular weight observed by SDS-PAGE. As a secreted protein, HGF functions through receptor-mediated signaling at the cell surface rather than intracellular localization. An HGF antibody supports research applications focused on growth factor expression, MET signaling pathways, and disease-associated changes in cellular communication, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the HGF antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An amino acid sequence from the N-terminus of mouse HGF (QKKRRNTLHEFKKSAKTTLTKEDPLLKIKTKK) was used as the immunogen for this HGF antibody.

Storage

After reconstitution, the HGF antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.