

HGFA-L (G-20): sc-20873

BACKGROUND

Hepatocyte growth factor (HGF) is a pleiotropic growth factor variously designated scatter factor, hematopoietin A and mammary growth factor. HGF is synthesized as a single chain, 728 amino acid precursor with a 29 amino acid signal peptide which is not present in the mature protein. Biologically active HGF is composed of a disulfide-linked α chain and a β chain, both of which are highly glycosylated. HGF exerts its biological effects through the HGF receptor, c-Met, which is expressed in ovary and endometrial endothelium and in the basal layers of skin. Hepatocyte growth factor activator (HGFA) is a serine protease which functions to cleave single chain HGF to its active heterodimeric form. HGFA is specific to the liver. HGFA of human origin is synthesized as an inactive secreted 655 amino acid precursor which is activated to generate a heterodimer consisting of a 35 amino acid short chain and a 248 amino acid long chain linked together by a disulfide bond. The gene encoding HGFA maps to human chromosome 4p16.3.

REFERENCES

1. Miyazawa, K., et al. 1993. Molecular cloning and sequence analysis of the cDNA for a human serine protease responsible for activation of hepatocyte growth factor. Structural similarity of the protease precursor to blood coagulation factor XII. *J. Biol. Chem.* 268: 10024-10028.
2. Shimomura, T., et al. 1993. Activation of the zymogen of hepatocyte growth factor activator by thrombin. *J. Biol. Chem.* 268: 22927-22932.
3. Miyazawa, K., et al. 1994. Proteolytic activation of hepatocyte growth factor in response to tissue injury. *J. Biol. Chem.* 269: 8966-8970.
4. Niranjan, B., et al. 1995. HGF/SF: a potent cytokine for mammary growth, morphogenesis and development. *Development* 121: 2897-2908.
5. Naldini, L., et al. 1995. Biological activation of pro-HGF (hepatocyte growth factor) by urokinase is controlled by a stoichiometric reaction. *J. Biol. Chem.* 270: 603-611.
6. Ferracini, R., et al. 1995. The Met/HGF receptor is over-expressed in human osteosarcomas and is activated by either a paracrine or an autocrine circuit. *Oncogene* 10: 739-749.
7. Tuck, A.B., et al. 1996. Coexpression of hepatocyte growth factor and receptor (Met) in human breast carcinoma. *Am. J. Pathol.* 148: 225-232.

CHROMOSOMAL LOCATION

Genetic locus: HGFA (human) mapping to 4p16.3; Hgf (mouse) mapping to 5 B2.

SOURCE

HGFA-L (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of HGFA-L of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-20873 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HGFA-L (G-20) is recommended for detection of HGFA long chain of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HGFA-L (G-20) is also recommended for detection of HGFA long chain in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for HGFA siRNA (h): sc-39568, HGFA siRNA (m): sc-39569, HGFA shRNA Plasmid (h): sc-39568-SH, HGFA shRNA Plasmid (m): sc-39569-SH, HGFA shRNA (h) Lentiviral Particles: sc-39568-V and HGFA shRNA (m) Lentiviral Particles: sc-39569-V.

Molecular Weight of HGFA-L precursor: 82 kDa.

Molecular Weight of HGFA-L long chain: 31 kDa.

Molecular Weight of HGFA-L short chain: 5 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **HGFA (B-6): sc-515126**, our highly recommended monoclonal alternative to HGFA-L (G-20).