

HGFA-S (N-19): sc-1372

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. 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.
5. Niranjana, B., et al. 1995. HGF/SF: a potent cytokine for mammary growth, morphogenesis and development. *Development* 121: 2897-2908.

CHROMOSOMAL LOCATION

Genetic locus: HGFA (human) mapping to 4p16.3.

SOURCE

HGFA-S (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of HGFA-S 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-1372 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

HGFA-S (N-19) is recommended for detection of HGFA short chain of human 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

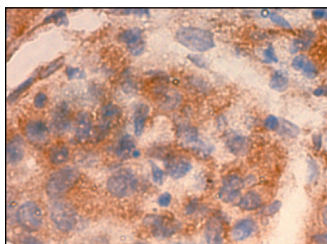
Suitable for use as control antibody for HGFA siRNA (h): sc-39568, HGFA shRNA Plasmid (h): sc-39568-SH and HGFA shRNA (h) Lentiviral Particles: sc-39568-V.

Molecular Weight of HGFA precursor: 82 kDa.

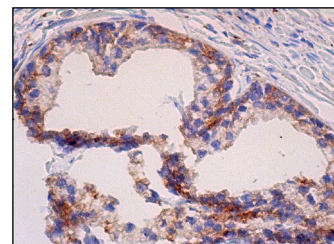
Molecular Weight of HGFA-L: 31 kDa.

Molecular Weight of HGFA-S: 5 kDa.

DATA



HGFA-S (N-19): sc-1372. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tumor showing cytoplasmic localization.



HGFA-S (N-19): sc-1372. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Iida, I., et al. 2003. Immunohistochemical localization of hepatocyte growth factor activator (HGFA) in developing mouse liver tissues. Heterogeneous distribution of HGFA protein. *J. Histochem. Cytochem.* 51: 1139-1149.
2. Mukai, S., et al. 2008. Activation of hepatocyte growth factor activator zymogen (pro-HGFA) by human kallikrein 1-related peptidases. *FEBS J.* 275: 1003-1017.
3. O'Reilly, C., et al. 2008. Hepatocyte growth factor (HGF) and the satellite cell response following muscle lengthening contractions in humans. *Muscle Nerve* 38: 1434-1442.
4. Furuse, C., et al. 2010. Study of growth factors and receptors in carcinoma ex pleomorphic adenoma. *J. Oral Pathol. Med.* 39: 540-547.

RESEARCH USE

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



Try **HGFA (B-6): sc-515126**, our highly recommended monoclonal alternative to HGFA-S (N-19).