

# HGFA (B-6): sc-515126

## 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  $\alpha$  chain and a  $\beta$  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

- 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.
- Shimomura, T., et al. 1993. Activation of the zymogen of hepatocyte growth factor activator by thrombin. *J. Biol. Chem.* 268: 22927-22932.
- Miyazawa, K., et al. 1994. Proteolytic activation of hepatocyte growth factor in response to tissue injury. *J. Biol. Chem.* 269: 8966-8970.
- 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

HGFA (B-6) is a mouse monoclonal antibody raised against amino acids 464-580 mapping within an internal region of HGFA of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HGFA (B-6) is available conjugated to agarose (sc-515126 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515126 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515126 PE), fluorescein (sc-515126 FITC), Alexa Fluor® 488 (sc-515126 AF488), Alexa Fluor® 546 (sc-515126 AF546), Alexa Fluor® 594 (sc-515126 AF594) or Alexa Fluor® 647 (sc-515126 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515126 AF680) or Alexa Fluor® 790 (sc-515126 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

HGFA (B-6) is recommended for detection of HGFA precursor and long chain of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

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.

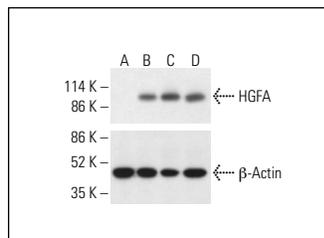
Molecular Weight of HGFA precursor: 82 kDa.

Molecular Weight of HGFA long chain: 31 kDa.

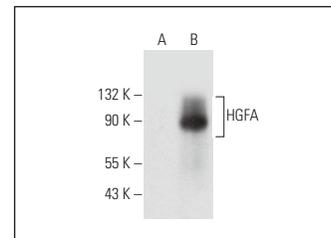
Molecular Weight of HGFA short chain: 5 kDa.

Positive Controls: HGFA (m): 293T Lysate: sc-120765 or SP2/0 whole cell lysate: sc-364795.

## DATA



HGFA (B-6): sc-515126. Western blot analysis of HGFA expression in untreated (A) and chemically-treated (B, C, D) SP2/0 whole cell lysates.  $\beta$ -Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



HGFA (B-6): sc-515126. Western blot analysis of HGFA expression in non-transfected: sc-117752 (A) and mouse HGFA transfected: sc-120765 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Prezoto, B.C., et al. 2019. Elevated plasma levels of hepatocyte growth factor in rats experimentally envenomated with *Bothrops jararaca* venom: role of snake venom metalloproteases. *Toxicon* 162: 9-14.
- Huang, H.S., et al. 2021. Ovulation sources coagulation protease cascade and hepatocyte growth factor to support physiological growth and malignant transformation. *Neoplasia* 23: 1123-1136.

## 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.