

ITI-H4 (F-9): sc-515353

BACKGROUND

The inter- α -trypsin inhibitor (ITI) family is a group of structurally related plasma serine protease inhibitors synthesized in the liver and built up from different combinations of three highly homologous heavy chains (ITI-H1, ITI-H2 and ITI-H3) and one light chain (Bikunin). Another member of the ITI family, ITI-H4, harbors a proline-rich region (PRR) in its C-terminus. ITI is a glycoprotein composed of three polypeptides linked by chondroitin sulphate: two heavy chains, ITI-H1 and ITI-H2, and Bikunin. Bikunin confers the protease-inhibitor function of ITI. The heavy chains of the ITI family, designated as SHAPs (for serum-derived hyaluronan-associated proteins), bind covalently to hyaluronic acid (HA), resulting in pericellular matrix stabilization. While the ITI family is primarily composed of multi-polypeptide molecules, ITI-H4 is a single chain molecule. Unlike other ITI family members, the gene transcriptions and products for rat and human ITI-H4 demonstrate marked differences, suggesting possible species-specific functions for ITI-H4. The gene encoding human ITI-H4 maps to chromosome 3p21.1.

REFERENCES

1. Bourguignon, J., et al. 1993. Human pre- α -trypsin inhibitor-precursor heavy chain. cDNA and deduced amino-acid sequence. *Eur. J. Biochem.* 212: 771-776.
2. Sarafan, N., et al. 1995. The human inter- α -trypsin inhibitor genes respond differently to interleukin-6 in Hep G2 cells. *Eur. J. Biochem.* 227: 808-815.

CHROMOSOMAL LOCATION

Genetic locus: ITIH4 (human) mapping to 3p21.1.

SOURCE

ITI-H4 (F-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 891-920 at the C-terminus of ITI-H4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ITI-H4 (F-9) is available conjugated to agarose (sc-515353 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515353 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515353 PE), fluorescein (sc-515353 FITC), Alexa Fluor® 488 (sc-515353 AF488), Alexa Fluor® 546 (sc-515353 AF546), Alexa Fluor® 594 (sc-515353 AF594) or Alexa Fluor® 647 (sc-515353 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515353 AF680) or Alexa Fluor® 790 (sc-515353 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515353 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

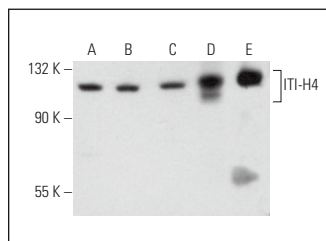
ITI-H4 (F-9) is recommended for detection of full length and 35 kDa fragment of ITI-H4 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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 ITI-H4 siRNA (h): sc-45402, ITI-H4 shRNA Plasmid (h): sc-45402-SH and ITI-H4 shRNA (h) Lentiviral Particles: sc-45402-V.

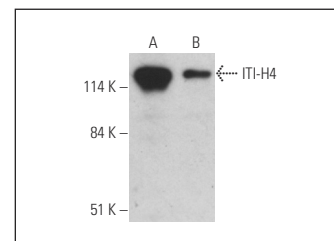
Molecular Weight of ITI-H4: 120 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, human liver extract: sc-363766 or human placenta extract: sc-363772.

DATA



ITI-H4 (F-9): sc-515353. Western blot analysis of ITI-H4 expression in Jurkat (A), RT-4 (B) and Hep G2 (C) whole cell lysates and human liver (D) and human placenta (E) tissue extracts.



ITI-H4 (F-9) HRP: sc-515353 HRP. Direct western blot analysis of ITI-H4 expression in Jurkat (A) and Hep G2 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Nakamura, N., et al. 2019. Elevated levels of circulating ITIH4 are associated with hepatocellular carcinoma with nonalcoholic fatty liver disease: from pig model to human study. *BMC Cancer* 19: 621.
2. Kumagai, T., et al. 2019. Serum IgM glycosylation associated with tuberculosis infection in mice. *mSphere* 4: e00684-18.
3. Masood, A., et al. 2020. Plasma-based proteomics profiling of patients with hyperthyroidism after antithyroid treatment. *Molecules* 25: 2831.
4. Rong, X., et al. 2020. Chronic periodontitis and Alzheimer disease: a putative link of serum proteins identification by 2D-DIGE proteomics. *Front. Aging Neurosci.* 12: 248.
5. Zhang, X., et al. 2022. Identification of serum biomarkers in patients with Alzheimer's disease by 2D-DIGE proteomics. *Gerontology* 68: 686-698.

RESEARCH USE

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

PROTOCOLS

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