

ITI-H4 (C-21): sc-21989

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). A fourth 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.
3. Soury, E., et al. 1998. The H4P heavy chain of inter- α -inhibitor family largely differs in the structure and synthesis of its proline-rich region from rat to human. *Biochem. Biophys. Res. Commun.* 243: 522-530.
4. Mizushima, S., et al. 1998. Gene expression of the two heavy chains and one light chain forming the inter- α -trypsin inhibitor in human tissues. *Biol. Pharm. Bull.* 21: 167-169.
5. Bost, F., et al. 1998. Inter- α -trypsin inhibitor proteoglycan family—a group of proteins binding and stabilizing the extracellular matrix. *Eur. J. Biochem.* 252: 339-346.
6. Dawson, C.J., et al. 1998. Inter- α -inhibitor in calcium stones. *Clin. Sci.* 95: 187-193.
7. Bourguignon, J., et al. 1999. Immunohistochemical distribution of inter- α -trypsin inhibitor chains in normal and malignant human lung tissue. *J. Histochem. Cytochem.* 47: 1625-1632.

CHROMOSOMAL LOCATION

Genetic locus: Itih4 (mouse) mapping to 14 B.

SOURCE

ITI-H4 (C-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ITI-H4 of mouse origin.

STORAGE

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

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-21989 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ITI-H4 (C-21) is recommended for detection of ITI-H4 of mouse and rat origin by Western Blotting (starting dilution 1:200, 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), 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 ITI-H4 siRNA (m): sc-45403, ITI-H4 shRNA Plasmid (m): sc-45403-SH and ITI-H4 shRNA (m) Lentiviral Particles: sc-45403-V.

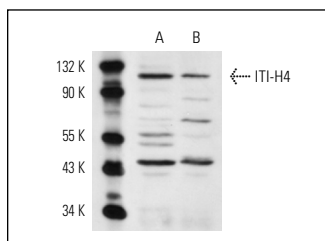
Molecular Weight of ITI-H4: 120 kDa.

Positive Controls: mouse liver extract: sc-2256 or rat liver extract: sc-2395.

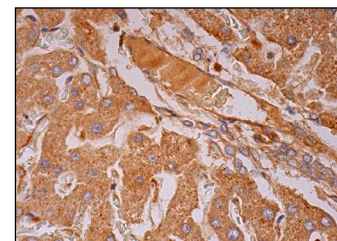
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



ITI-H4 (C-21): sc-21989. Western blot analysis of ITI-H4 expression in rat liver (A) and mouse liver (B) tissue extracts.



ITI-H4 (C-21): sc-21989. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes and bile duct cells and staining of plasma in blood vessels.

RESEARCH USE

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