SANTA CRUZ BIOTECHNOLOGY, INC.

ITI-H2 (N-17): sc-21974

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (also known as I a IH4P) harbors a Pro-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. ITI-H2 is expressed in the adrenal glands, brain, kidney, lung and liver. Weak but frequent H2 expression is observed in adenocarcinoma cells. ITI-H2 mRNA levels decrease in response to IL-6. ITI-H1 and ITI-H2 are associated with calcium oxalate stone formation in kidney and urine. The human ITI-H2 gene maps to chromosome 10p14.

REFERENCES

1. Soury, E., et al. 1998. The H4P heavy chain of inter-α-inhibitor family largely differs in the structure and synthesis of its prolin-rich region from rat to human. Biochem. Biophys. Res. Commun. 243: 522-530.
2. 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.
3. 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.
4. Dawson, C.J., et al. 1998. Inter-α-inhibitor in calcium stones. Clin. Sci. 95: 187-193.
5. 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.
6. Zhuo, L., et al. 2001. Defect in SHAP-hyaluronan complex causes severe female infertility. A study by inactivation of the bikunin gene in mice. J. Biol. Chem. 276: 7693-7696.
7. Paris, S., et al. 2002. Inhibition of tumor growth and metastatic spreading by overexpression of inter-α-trypsin inhibitor family chains. Int. J. Cancer 97: 615-620.

CHROMOSOMAL LOCATION

Genetic locus: ITIH2 (human) mapping to 10p14; Itih2 (mouse) mapping to 2 A1.

SOURCE

ITI-H2 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ITI-H2 of human 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 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21974 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

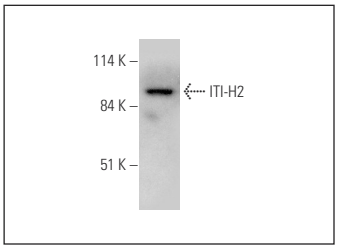
ITI-H2 (N-17) is recommended for detection of precursor and mature chain of ITI-H2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting 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-H2 siRNA (h): sc-39597, ITI-H2 siRNA (m): sc-39598, ITI-H2 shRNA Plasmid (h): sc-39597-SH, ITI-H2 shRNA Plasmid (m): sc-39598-SH, ITI-H2 shRNA (h) Lentiviral Particles: sc-39597-V and ITI-H2 shRNA (m) Lentiviral Particles: sc-39598-V.

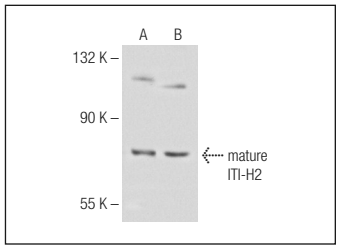
Molecular Weight of ITI-H2: 75-80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or CTLL-2 cell lysate: sc-2242.

DATA



ITI-H2 (N-17): sc-21974. Western blot analysis of ITI-H2 expression in Hep G2 whole cell lysate.



ITI-H2 (N-17): sc-21974. Western blot analysis of ITI-H2 expression in HeLa (**A**) and CTLL-2 (**B**) whole cell lysates.

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.