

ITI-H2 (K-16): sc-21975

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 or 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

- Dawson, C.J., et al. 1998. Inter- α -inhibitor in calcium stones. *Clin. Sci.* 95: 187-193.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.

SOURCE

ITI-H2 (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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 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-21975 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

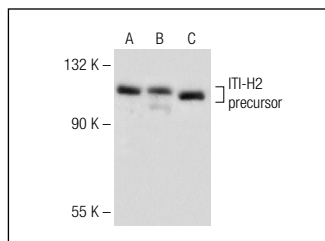
ITI-H2 (K-16) is recommended for detection of precursor and mature chain of ITI-H2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, 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-H2 siRNA (h): sc-39597, ITI-H2 shRNA Plasmid (h): sc-39597-SH and ITI-H2 shRNA (h) Lentiviral Particles: sc-39597-V.

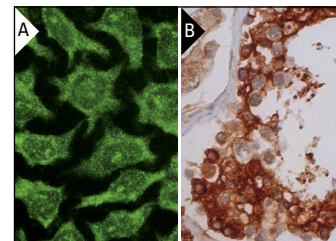
Molecular Weight of ITI-H2: 75-80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

DATA



ITI-H2 (K-16): sc-21975. Western blot analysis of ITI-H2 expression in RAW 264.7 (A), HeLa (B) and CTLL-2 (C) whole cell lysates.



ITI-H2 (K-16): sc-21975. Immunofluorescence staining of methanol-fixed HeLa cells showing cell surface localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing membrane and cytoplasmic staining of glandular cells and Leydig cells (B).

SELECT PRODUCT CITATIONS

- Lauer, M.E., et al. 2013. Irreversible heavy chain transfer to hyaluronan oligosaccharides by tumor necrosis factor-stimulated gene-6. *J. Biol. Chem.* 288: 205-214.

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.