

ITI-H1 (40B10): sc-69788

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 (also known as I α 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-H1 contains a potential peptide which could stimulate a broad spectrum of phagocytotic cells. Although ITI-H1, ITI-H3 and Bikunin have anti-tumoral and antimetastatic properties in the cell, they are also associated with malignant transformation of lung tissue. ITI-H1 and ITI-H2 are associated with calcium oxalate stone formation in kidney and urine.

REFERENCES

- 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.
- 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.
- 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.
- Dawson, C.J., et al. 1998. Inter- α -inhibitor in calcium stones. *Clin. Sci.* 95: 187-193.
- 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.
- Moriyama, M.T., et al. 2001. Expression of inter- α inhibitor related proteins in kidneys and urine of hyperoxaluric rats. *J. Urol.* 165: 1687-1692.

CHROMOSOMAL LOCATION

Genetic locus: ITIH1 (human) mapping to 3p21.1.

SOURCE

ITI-H1 (40B10) is a mouse monoclonal antibody raised against purified ITI-H1 of human origin.

PRODUCT

Each vial contains IgG₁ in 100 μ l of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

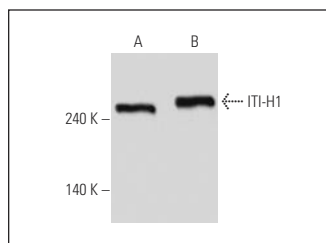
ITI-H1 (40B10) is recommended for detection of ITI-H1 of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 μ l per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:2500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:50-1:2500).

Suitable for use as control antibody for ITI-H1 siRNA (h): sc-39595, ITI-H1 shRNA Plasmid (h): sc-39595-SH and ITI-H1 shRNA (h) Lentiviral Particles: sc-39595-V.

Molecular Weight of ITI-H1: 101 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or human plasma extract: sc-364374.

DATA



ITI-H1 (40B10): sc-69788. Western blot analysis of ITI-H1 purified from human plasma (A) and in human plasma (B).

SELECT PRODUCT CITATIONS

- Huang, Z., et al. 2012. iTRAQ-based proteomic profiling of human serum reveals down-regulation of platelet basic protein and apolipoprotein B100 in patients with hematotoxicity induced by chronic occupational benzene exposure. *Toxicology* 291: 56-64.
- Winkler, C.J., et al. 2013. Protein sieving characteristics of sub-20-nm pore size filters at varying ionic strength during nanofiltration of coagulation Factor IX. *Biologicals* 41: 176-183.

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.

PROTOCOLS

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