



## ITI-H1 (E-18): sc-21969

### BACKGROUND

The inter- $\alpha$  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  $\alpha$  IH4P) harbours a Pro-rich region (PRR) in its c-terminus. ITI (also known as Ial) is a 220 kDa glycoprotein composed of three polypeptides linked by chondroitin sulphate: two heavy chains, ITI-H1 (65 kDa) and ITI-H2 (70 kDa), and bikunin (approx. 30 kDa). 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 antitumoral and antimetastatic properties in the cell, they are also associated with malignant transformation of lung tissue. ITI family members, ITI-H1 and ITI-H2, are associated with calcium oxalate stone formation in kidney and urine. The human ITI-H1 gene maps to chromosome 3p21.2-p21.1 and encodes a 180 kDa protein.

### REFERENCES

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2. Mizushima, S., et al. 1998. Gene expression of the two heavy chains and one light chain forming the inter- $\alpha$ -trypsin-inhibitor in human tissues. *Biol. Pharm. Bull.* 21: 167-169.
3. Bost, F., et al. 1998. Inter- $\alpha$ -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-alpha-inhibitor in calcium stones. *Clin. Sci.* 95: 187-193.
5. Bourguignon, J., et al. 1999. Immunohistochemical distribution of inter- $\alpha$ -trypsin inhibitor chains in normal and malignant human lung tissue. *J. Histochem. Cytochem.* 47: 1625-1632.
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7. Moriyama, M.T., et al. 2001. Expression of inter-alpha inhibitor related proteins in kidneys and urine of hyperoxaluric rats. *J. Urol.* 165: 1687-1692.
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### CHROMOSOMAL LOCATION

Genetic locus: ITIH2 (human) mapping to 10p15; Itih2 (mouse) mapping to 2 A1.

### SOURCE

ITI-H1 (E-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ITI-H1 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21969 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

ITI-H1 (E-18) is recommended for detection of precursor and mature chain of ITI-H1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

### 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) 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.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.