

## ITI-H3 (L-15): sc-33949

### 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) 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. Although ITI-H1, ITI-H3 and Bikunin have antitumoral and antimetastatic properties in the cell, these proteins are also associated with malignant transformation of lung tissue. ITI-H3 and Bikunin associate to form pre- $\alpha$ -trypsin inhibitor (P $\alpha$ I), a serine-proteinase inhibitor found in human serum. ITI-H3 mRNA levels increase in response to IL-6.

### REFERENCES

- Soury, E., et al. 1998. The H4P heavy chain of inter- $\alpha$ -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- $\alpha$  trypsin inhibitor in human tissues. *Biol. Pharm. Bull.* 21: 167-169.
- 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.
- Dawson, C.J., et al. 1998. Inter- $\alpha$  inhibitor in calcium stones. *Clin. Sci.* 95: 187-193.
- 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.
- 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.

### CHROMOSOMAL LOCATION

Genetic locus: ITIH3 (human) mapping to 3p21.1; Itih3 (mouse) mapping to 14 B.

### SOURCE

ITI-H3 (L-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of ITI-H3 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-33949 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

ITI-H3 (L-15) is recommended for detection of precursor and mature chain of ITI-H3 of human and, to a lesser extent, mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

ITI-H3 (L-15) is also recommended for detection of precursor and mature chain of ITI-H3 in additional species, including canine.

Suitable for use as control antibody for ITI-H3 siRNA (h): sc-39599, ITI-H3 siRNA (m): sc-39600, ITI-H3 shRNA Plasmid (h): sc-39599-SH, ITI-H3 shRNA Plasmid (m): sc-39600-SH, ITI-H3 shRNA (h) Lentiviral Particles: sc-39599-V and ITI-H3 shRNA (m) Lentiviral Particles: sc-39600-V.

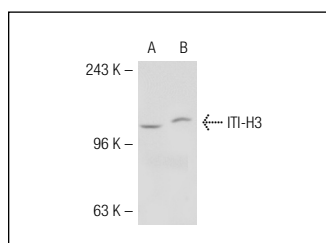
Molecular Weight of ITI-H3: 100 kDa.

Positive Controls: 293T whole cell lysate or WI 38 whole cell lysate.

### 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.

### DATA



ITI-H3 (L-15): sc-33949. Western blot analysis of ITI-H3 expression in 293T (A) and WI 38 (B) whole cell lysates.

### 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.