SANTA CRUZ BIOTECHNOLOGY, INC.

ITI-H4 (E-15): sc-21988

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The Power to Question

BACKGROUND

The inter-α trypsin inhibitor (ITI, also known as Ial) 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-HI, ITI-H2 and ITI-H3) and one light chain (bikunin). A fourth member of the ITI family, ITI-H4 (also known as I a IH4P) harbors a proline-rich region (PRR) in its C-terminus. ITI 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 (approximately 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 antimet-astatic 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.

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. 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.
5. 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: ITIH4 (human) mapping to 3p21-p14; Itih4 (mouse) mapping to 14 A3.

SOURCE

ITI-H4 (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ITI-H4 of mouse origin.

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-21988 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ITI-H4 (E-15) is recommended for detection of ITI-H4 of mouse and rat 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-H4 siRNA (m): sc-45403, ITI-H4 shRNA Plasmid (m): sc-45403-SH and ITI-H4 shRNA (m) Lentiviral Particles: sc-45403-V.

Molecular Weight of ITI-H4: 120 kDa.

Positive Controls: Mouse liver extract: sc-2256 or rat liver extract: sc-2395.

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.

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 or our catalog for detailed protocols and support products.