

ITI-H4 (F-14): sc-34471

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, harbors a proline-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. While the ITI family is primarily composed of multi-polypeptide molecules, ITI-H4 is a single chain molecule. Unlike other ITI family members, the gene transcriptions and products for rat and human ITI-H4 demonstrate marked differences, suggesting possible species-specific functions for ITI-H4. The gene encoding human ITI-H4 maps to chromosome 3p21.1.

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.

CHROMOSOMAL LOCATION

Genetic locus: ITIH4 (human) mapping to 3p21.1; Itih4 (mouse) mapping to 14 B.

SOURCE

ITI-H4 (F-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ITI-H4 of human origin.

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-34471 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

ITI-H4 (F-14) is recommended for detection of full length ITI-H4 and the 70 kDa fragment of ITI-H4 of mouse, rat and 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); non cross-reactive with the 35kDa fragment of ITI-H4.

ITI-H4 (F-14) is also recommended for detection of full length ITI-H4 and the 70 kDa fragment of ITI-H4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ITI-H4 siRNA (h): sc-45402, ITI-H4 siRNA (m): sc-45403, ITI-H4 shRNA Plasmid (h): sc-45402-SH, ITI-H4 shRNA Plasmid (m): sc-45403-SH, ITI-H4 shRNA (h) Lentiviral Particles: sc-45402-V 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) 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.

SELECT PRODUCT CITATIONS

1. Lubieniecka, J.M., et al. 2011. Biomarkers for severity of spinal cord injury in the cerebrospinal fluid of rats. *PLoS ONE* 6: e19247.
2. Kim, M.S., et al. 2011. ITI-H4, as a biomarker in the serum of recurrent pregnancy loss (RPL) patients. *Mol. Biosyst.* 7: 1430-1440.

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.



Try **ITI-H4 (F-9): sc-515353** or **ITI-H4 (G-2): sc-515060**, our highly recommended monoclonal alternatives to ITI-H4 (F-14).