



ITI-H4 (A-12): sc-515242

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. Bourguignon, J., et al. 1993. Human pre- α -trypsin inhibitor-precursor heavy chain. cDNA and deduced amino-acid sequence. *Eur. J. Biochem.* 212: 771-776.
2. Sarafan, N., et al. 1995. The human inter- α -trypsin inhibitor genes respond differently to interleukin-6 in Hep G2 cells. *Eur. J. Biochem.* 227: 808-815.
3. 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.
4. 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.
5. 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.
6. Dawson, C.J., et al. 1998. Inter- α -inhibitor in calcium stones. *Clin. Sci.* 95: 187-193.

CHROMOSOMAL LOCATION

Genetic locus: ITIH4 (human) mapping to 3p21.1.

SOURCE

ITI-H4 (A-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 898-920 at the C-terminus of ITI-H4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515242 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ITI-H4 (A-12) is recommended for detection of full length and 35 kDa fragment of ITI-H4 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

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

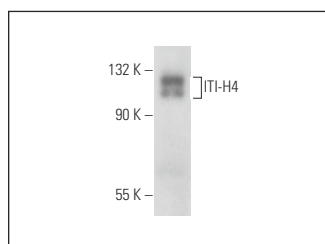
Molecular Weight of ITI-H4: 120 kDa.

Positive Controls: human liver extract: sc-363766.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ITI-H4 (A-12): sc-515242. Western blot analysis of ITI-H4 expression in human liver tissue extract.

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.