

# ITI-H5 (B-7): sc-398538

## BACKGROUND

ITI-H5 (inter- $\alpha$  globulin) inhibitor H5), also known as inter- $\alpha$ -trypsin inhibitor heavy chain H5, is a 942 amino acid protein belonging to the ITIH family. Encoded by a gene that maps to human chromosome 10p14, ITI-H5 is differentially expressed in human breast tumor and ovary tissues, with highest levels in placenta. Existing as four alternatively spliced isoforms, ITI-H5 is composed of multipolypeptides, possibly including one heavy chain containing potential calcium-binding sites and two light chains. ITI-H5 encodes a heavy chain component of one of the inter- $\alpha$ -trypsin inhibitor family members and participates in extracellular matrix stabilization, tumor metastasis prevention and plasma serine protease inhibition. ITI-H5 consists of two conserved ITIH domains: a vault inter- $\alpha$ -trypsin (VIT) domain and a von Willebrand type A (VWA) domain. Decreased expression of ITI-H5 may be involved in various tumor and breast cancer development.

## REFERENCES

- Salier, J.P., et al. 1987. Isolation and characterization of cDNAs encoding the heavy chain of human inter- $\alpha$ -trypsin inhibitor ( $\alpha$ TI): unambiguous evidence for multipolypeptide chain structure of  $\alpha$ TI. *Proc. Natl. Acad. Sci. USA* 84: 8272-8276.
- Himmelfarb, M., et al. 2004. ITIH5, a novel member of the inter- $\alpha$ -trypsin inhibitor heavy chain family is downregulated in breast cancer. *Cancer Lett.* 204: 69-77.
- Dahl, E., et al. 2005. Systematic identification and molecular characterization of genes differentially expressed in breast and ovarian cancer. *J. Pathol.* 205: 21-28.
- Werbowski-Ogilvie, T.E., et al. 2006. Isolation of a natural inhibitor of human malignant glial cell invasion: inter  $\alpha$ -trypsin inhibitor heavy chain 2. *Cancer Res.* 66: 1464-1472.
- Veeck, J., et al. 2008. The extracellular matrix protein ITIH5 is a novel prognostic marker in invasive node-negative breast cancer and its aberrant expression is caused by promoter hypermethylation. *Oncogene* 27: 865-876.
- Veeck, J., et al. 2008. Novel prognostic marker in invasive breast cancer. ITIH5 expression is abrogated by aberrant promoter methylation. *Pathologie* 29: 338-346.
- Pita, J.M., et al. 2009. Gene expression profiling associated with the progression to poorly differentiated thyroid carcinomas. *Br. J. Cancer* 101: 1782-1791.

## CHROMOSOMAL LOCATION

Genetic locus: Itih5 (mouse) mapping to 2 A1.

## SOURCE

ITI-H5 (B-7) is a mouse monoclonal antibody raised against amino acids 21-95 mapping near the N-terminus of ITI-H5 of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

ITI-H5 (B-7) is recommended for detection of ITI-H5 of mouse origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for ITI-H5 siRNA (m): sc-146309, ITI-H5 shRNA Plasmid (m): sc-146309-SH and ITI-H5 shRNA (m) Lentiviral Particles: sc-146309-V.

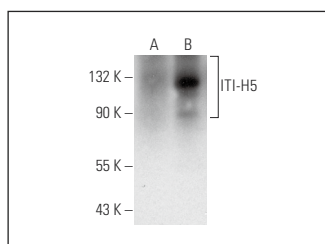
Molecular Weight of ITI-H5: 105 kDa.

Positive Controls: ITI-H5 (m): 293T Lysate: sc-127022.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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-H5 (B-7): sc-398538. Western blot analysis of ITI-H5 expression in non-transfected: sc-117752 (A) and mouse ITI-H5 transfected: sc-127022 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Acosta, S.A., et al. 2019. Endothelial progenitor cells modulate inflammation-associated stroke vasculome. *Stem Cell Rev. Rep.* 15: 256-275.

## 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.