

ICAT (5C6): sc-293489

BACKGROUND

ICAT interacts directly with β -catenin and interferes with the Wnt signaling pathway. Specifically, ICAT prevents the interaction of β -catenin with TCF-4 and inhibits β -catenin-TCF-4-mediated transactivation. The negative regulatory effect of ICAT on the Wnt signaling pathway appears to inhibit tumor cell proliferation. ICAT also induces G₂ arrest followed by cell death in colorectal tumor cells. The ectopic induction of ICAT inhibits the expression of β 3 Tubulin and thus neuronal differentiation in embryonal carcinoma P19 cells. Structural characteristics of ICAT include a three-helix bundle and a C-terminal tail. The gene encoding human ICAT maps to chromosome 1p36.22.

REFERENCES

1. Tago, K., Nakamura, T., Nishita, M., Hyodo, J., Nagai, S., Murata, Y., Adachi, S., Ohwada, S., Morishita, Y., Shibuya, H. and Akiyama, T. 2000. Inhibition of Wnt signaling by ICAT, a novel β -catenin-interacting protein. *Genes Dev.* 14: 1741-1749.
2. Sekiya, T., Nakamura, T., Kazuki, Y., Oshimura, M., Kohu, K., Tago, K., Ohwada, S. and Akiyama, T. 2002. Overexpression of *Icat* induces G₂ arrest and cell death in tumor cell mutants for adenomatous polyposis coli, β -catenin, or Axin. *Cancer Res.* 62: 3322-3326.
3. Graham, T.A., Clements, W.K., Kimelman, D. and Xu, W. 2002. The crystal structure of the β -catenin/ICAT complex reveals the inhibitory mechanism of ICAT. *Mol. Cell* 10: 563-571.
4. Reifemberger, J., Knobbe, C.B., Wolter, M., Blaschke, B., Schulte, K.W., Pietsch, T., Ruzicka, T. and Reifemberger, G. 2002. Molecular genetic analysis of malignant melanomas for aberrations of the WNT signaling pathway genes CTNNB1, APC, ICAT and BTRC. *Int. J. Cancer* 100: 549-556.
5. Lyu, J., Costantini, F., Jho, E.H. and Joo, C.K. 2003. Ectopic expression of Axin blocks neuronal differentiation of embryonic carcinoma P19 cells. *J. Biol. Chem.* 278: 13487-13495.

CHROMOSOMAL LOCATION

Genetic locus: CTNNBIP1 (human) mapping to 1p36.22; Ctnnbip1 (mouse) mapping to 4 E2.

SOURCE

ICAT (5C6) is a mouse monoclonal antibody raised against amino acids 1-81 representing partial length ICAT of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

ICAT (5C6) is recommended for detection of ICAT of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

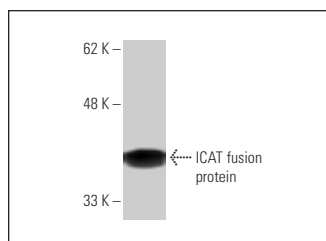
Suitable for use as control antibody for ICAT siRNA (h): sc-43858, ICAT siRNA (m): sc-45273, ICAT shRNA Plasmid (h): sc-43858-SH, ICAT shRNA Plasmid (m): sc-45273-SH, ICAT shRNA (h) Lentiviral Particles: sc-43858-V and ICAT shRNA (m) Lentiviral Particles: sc-45273-V.

Molecular Weight of ICAT: 9 kDa.

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).

DATA



ICAT (5C6): sc-293489. Western blot analysis of human recombinant ICAT fusion protein.

SELECT PRODUCT CITATIONS

1. Banerjee, A., Chawla-Sarkar, M. and Mukherjee, A. 2022. Rotavirus-mediated suppression of miRNA-192 family and miRNA-181a activates Wnt/ β -catenin signaling pathway: an *in vitro* study. *Viruses* 14: 558.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.