

p-β-catenin (Ser 33): sc-101650

BACKGROUND

The catenins, α , β and γ , are proteins that bind to the highly conserved, intracellular cytoplasmic tail of E-cadherin. Together, the catenin/cadherin complexes play critical roles in mediating cellular adhesion. β -catenin associates with the cytoplasmic portion of E-cadherin, which is necessary for the function of E-cadherin as an adhesion molecule. β -catenin also forms complexes with the tumor suppressor protein APC. Amino acid alterations at residues around Ser 33, one of the targets for phosphorylation of glycogen synthase kinase-3 β , result in accumulation of the β -catenin protein in the cytoplasm and nucleus. Pin1 is a novel regulator of β -catenin signaling that directly binds a phosphorylated Ser-Pro motif next to the APC-binding site in β -catenin, inhibiting the interaction with APC and increasing β -catenin translocation into the nucleus. Thus, Pin1 overexpression may contribute to the upregulation of β -catenin in tumors such as breast cancer.

REFERENCES

1. Knudsen, K.A., Soler, A.P., Johnson, K.R. and Wheelock, M.J. 1995. Interaction of α -actinin with the cadherin/catenin cell-cell adhesion complex via α -catenin. *J. Cell Biol.* 130: 67-77.
2. Breen, E., Steele, G., Jr. and Mercurio, A.M. 1995. Role of the E-cadherin/ α -catenin complex in modulating cell-cell and cell-matrix adhesive properties of invasive colon carcinoma cells. *Ann. Surg. Oncol.* 2: 378-385.
3. Perceall, W.E., Woodard, A.S., Morrow, J.S., Rimm, D. and Fearon, E.R. 1995. Frequent alterations in E-cadherin and α - and β -catenin expression in human breast cancer cell lines. *Oncogene* 11: 1319-1326.
4. Ikeda, T., Yoshinaga, K., Semba, S., Kondo, E., Ohmori, H. and Horii, A. 2000. Mutational analysis of the CTNNB1 (β -catenin) gene in human endometrial cancer: frequent mutations at codon 34 that cause nuclear accumulation. *Oncol. Rep.* 7: 323-326.
5. Ryo, A., Nakamura, M., Wulf, G., Liou, Y.C. and Lu, K.P. 2001. Pin1 regulates turnover and subcellular localization of β -catenin by inhibiting its interaction with APC. *Nat. Cell Biol.* 3: 793-801.

CHROMOSOMAL LOCATION

Genetic locus: CTNNB1 (human) mapping to 3p22.1; Ctnnb1 (mouse) mapping to 9 F4.

SOURCE

p- β -catenin (Ser 33) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 33 phosphorylated β -catenin of human origin.

PRODUCT

Each vial contains 100 μ g IgG 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.

APPLICATIONS

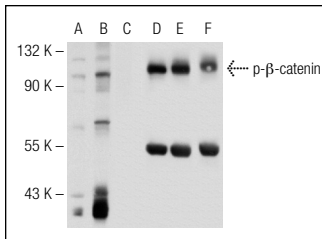
p- β -catenin (Ser 33) is recommended for detection of Ser 33 phosphorylated β -catenin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for β -catenin siRNA (h): sc-29209, β -catenin siRNA (m): sc-29210, β -catenin shRNA Plasmid (h): sc-29209-SH, β -catenin shRNA Plasmid (m): sc-29210-SH, β -catenin shRNA (h) Lentiviral Particles: sc-29209-V and β -catenin shRNA (m) Lentiviral Particles: sc-29210-V.

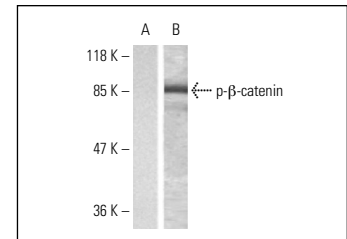
Molecular Weight of p- β -catenin: 92 kDa

Positive Controls: SH-SY5Y cell lysate: sc-3812, HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

DATA



Western blot analysis of β -catenin phosphorylation in untreated (A, D), calyculin treated (B, E) and calyculin and lambda protein phosphatase (sc-200312A) treated (C, F) SH-SY5Y whole cell lysates. Antibodies tested include p- β -catenin (Ser 33): sc-101650 (A, B, C) and β -catenin (H-102): sc-7199 (D, E, F).



p- β -catenin (Ser 228): sc-101650. Western blot analysis of phosphorylated β -catenin expression in untreated (A) and Calyculin A-treated (B) SW626 whole cell lysates.

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 **p- β -catenin (BC-22): sc-57535**, our highly recommended monoclonal alternative to p- β -catenin (Ser 33).