



p- β -catenin (Ser 33)-R: sc-22192-R

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 , results 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

- Knudsen, K.A., et al. 1995. Interaction of α -actinin with the cadherin/catenin cell-cell adhesion complex via α -catenin. *J. Cell Biol.* 130: 67-77.
- Breen, E., et al. 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.
- Perceall, W.E., et al. 1995. Frequent alterations in E-cadherin, α and β -catenin expression in human breast cancer cell lines. *Oncogene* 11: 1319-1326.
- Ikeda, T., et al. 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.
- Ryo, A., et al. 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)-R is a rabbit polyclonal affinity purified antibody raised against a short amino acid sequence containing phosphorylated Ser 33 of β -catenin 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-22192 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

p- β -catenin (Ser 33)-R 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), 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 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 β -catenin: 92 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (range: 1:2000-1:5000); Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- De Miglio, M.R., et al. 2007. Identification and chromosome mapping of loci predisposing to colorectal cancer that control Wnt/ β -catenin pathway and progression of early lesions in the rat. *Carcinogenesis* 28: 2367-2374.
- Jozwiak, J., et al. 2007. Upregulation of the WNT pathway in tuberous sclerosis-associated subependymal giant cell astrocytomas. *Brain Dev.* 29: 273-280.

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.