

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-3β, 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

1. 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.
2. 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.
3. 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.
4. 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.
5. 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 Ser 33 phosphorylated β-catenin of human origin.

PRODUCT

Each vial contains 200 µg 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 µg 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).

p-β-catenin (Ser 33)-R is also recommended for detection of correspondingly phosphorylated β-catenin in additional species, including equine, canine, bovine, porcine and avian.

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.

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), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 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

1. 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.
2. 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.


 MONOS
 Satisfaction
 Guaranteed

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