



p- β -catenin (Thr 393): sc-32962

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., 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 and 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.
6. Song, DH. et al. 2003. CK2 phosphorylation of the armadillo repeat region of β -catenin potentiates Wnt signaling. *J. Biol. Chem.* 278: 24018-24025.

CHROMOSOMAL LOCATION

Genetic locus: CTNNB1 (human) mapping to 3p21; Ctnnb1 (mouse) mapping to 9 F4.

SOURCE

p- β -catenin (Thr 393) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Thr 393 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-32962 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

p- β -catenin (Thr 393) is recommended for detection of Thr 393 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 (h2): sc-44252, β -catenin siRNA (m): sc-29210 and β -catenin siRNA (m2): sc-44253.

Positive Controls: 293 cell lysate + calyculin A + LiCl.

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 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution 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 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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