SANTA CRUZ BIOTECHNOLOGY, INC.

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-3β, 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, D.H., 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 3p22.1; 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 Thr 393 phosphorylated β-catenin of human origin.

PRODUCT

Each vial contains 100 µg 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 µg 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), immunohistochemistry (including paraffin-embedded sections) (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 (Thr 393) 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.

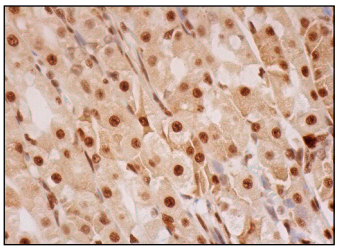
Molecular Weight of p-β-catenin: 92 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, OVCAR-5 whole cell lysate or pervanadate stimulated SW480 whole cell lysate.

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), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



p-β-catenin (Thr 393): sc-32962. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing nuclear and cytoplasmic staining of glandular cells.

STORAGE

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