SANTA CRUZ BIOTECHNOLOGY, INC.

p-β-catenin (24E1): sc-57534

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

p-β-catenin (24E1) is a mouse monoclonal antibody raised against a synthetic phosphopeptide of β-catenin of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

APPLICATIONS

p-β-catenin (24E1) is recommended for detection of Tyr 86 phosphorylated β-catenin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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.

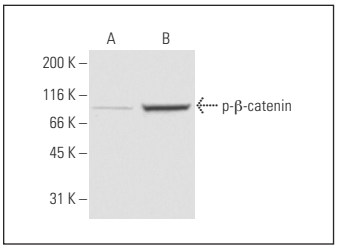
Molecular Weight of p-β-catenin: 92 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812.

STORAGE

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

DATA



p-β-catenin (24E1): sc-57534. Western blot analysis of β-catenin phosphorylation in non-stimulated (**A**) and pervanadate stimulated (**B**) SW480 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zhang, Y., et al. 2016. The unique role of the hepatitis virus B X protein on HEK 293 cell morphology and cellular change. Arch. Virol. 161: 1347-1352.
2. Yang, J., et al. 2017. MicroRNA-202 inhibits cell proliferation, migration and invasion of glioma by directly targeting metadherin. Oncol. Rep. 38: 1670-1678.
3. Cui, H., et al. 2018. MicroRNA-337 regulates the PI3K/AKT and Wnt/β-catenin signaling pathways to inhibit hepatocellular carcinoma progression by targeting high-mobility group AT-hook 2. Am. J. Cancer Res. 8: 405-421.
4. Ren, J., et al. 2019. MicroRNA-758 inhibits the malignant phenotype of osteosarcoma cells by directly targeting HMGA1 and deactivating the Wnt/β-catenin pathway. Am. J. Cancer Res. 9: 36-52.
5. Tan, X., et al. 2019. MicroRNA-625 inhibits the progression of non-small cell lung cancer by directly targeting HOXB5 and deactivating the Wnt/β-catenin pathway. Int. J. Mol. Med. 44: 346-356.
6. Yan, G., et al. 2019. Downregulation of microRNA-629-5p in colorectal cancer and prevention of the malignant phenotype by direct targeting of low-density lipoprotein receptor-related protein 6. Int. J. Mol. Med. 44: 1139-1150.
7. Lyu, X., et al. 2019. MicroRNA-485 inhibits the malignant behaviors of retinoblastoma by directly targeting Wnt3a. Oncol. Rep. 41: 3137-3147.
8. Liu, Y., et al. 2019. MicroRNA-873 targets HOXA9 to inhibit the aggressive phenotype of osteosarcoma by deactivating the Wnt/β-catenin pathway. Int. J. Oncol. 54: 1809-1820.
9. Situ, J., et al. 2020. MicroRNA-939 directly targets HDGF to inhibit the aggressiveness of prostate cancer via deactivation of the WNT/β-catenin pathway. Onco Targets Ther. 13: 4257-4270.

RESEARCH USE

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