

# β-catenin (6D209): sc-70509

## BACKGROUND

The catenins,  $\alpha$ ,  $\beta$  and  $\gamma$ , are proteins which bind to the highly conserved, intracellular cytoplasmic tail of E-cadherin. Together, the catenin/cadherin complexes play an important role mediating cellular adhesion.  $\alpha$ -catenin was initially described as an E-cadherin associated protein, and since has been shown to associate with other members of the cadherin family, such as N-cadherin and P-cadherin.  $\beta$ -catenin associates with the cytoplasmic portion of E-cadherin, which is necessary for the function of E-cadherin as an adhesion molecule.  $\beta$ -catenin has also been found in complexes with the tumor suppressor protein APC.  $\gamma$ -catenin, also known as plakoglobin, binds with  $\alpha$ -catenin and N-cadherin. It has been shown that the transmembrane phosphatase PTP $\mu$  associates with catenin/cadherin complexes and may regulate complex signaling.

## REFERENCES

- Johnson, K.R., Lewis, J.E., Li, D., Wahl, J., Soler, A.P., Knudsen, K.A. and Wheelock, M.J. 1993. P- and E-cadherin are in separate complexes in cells expressing both cadherins. *Exp. Cell Res.* 207: 252-260.
- Breen, E., Steele, G., Jr. and Mercurio, A.M. 1995. Role of the E-cadherin/ $\alpha$ -catenin complex in modulating cell-cell and cell-matrix adhesive properties of invasive colon carcinoma cells. *Ann. Surg. Oncol.* 2: 378-385.
- Sacco, P.A., McGranahan, T.M., Wheelock, M.J. and Johnson, K.R. 1995. Identification of plakoglobin domains required for association with N-cadherin and  $\alpha$ -catenin. *J. Biol. Chem.* 270: 20201-20206.
- Knudsen, K.A., Soler, A.P., Johnson, K.R. and Wheelock, M.J. 1995. Interaction of  $\alpha$ -actinin with the cadherin/catenin cell-cell adhesion complex via  $\alpha$ -catenin. *J. Cell Biol.* 130: 67-77.
- Pierceall, W.E., Woodard, A.S., Morrow, J.S., Rimm, D. and Fearon, E.R. 1995. Frequent alterations in E-cadherin and  $\alpha$ - and  $\beta$ -catenin expression in human breast cancer cell lines. *Oncogene* 11: 1319-1326.
- Takayama, T., Shiozaki, H., Shibamoto, S., Oka, H., Kimura, Y., Tamura, S., Inoue, M., Monden, T., Ito, F. and Monden, M. 1996.  $\beta$ -catenin expression in human cancers. *Am. J. Pathol.* 148: 39-46.
- Hakuno, M., Shimizu, H., Akiyama, M., Amagai, M., Wahl, J., Wheelock, M. and Nishikawa, T. 2000. Dissociation of intra- and extracellular domains of desmosomal cadherins and E-cadherin in Hailey-Hailey disease and Darier's disease. *Br. J. Dermatol.* 142: 702-711.

## CHROMOSOMAL LOCATION

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

## SOURCE

$\beta$ -catenin (6D209) is a mouse monoclonal antibody raised against full length  $\beta$ -catenin of human origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>1</sub> in 500  $\mu$ l of PBS with < 0.1% sodium azide, 1% gelatin, PEG and sucrose.

## APPLICATIONS

$\beta$ -catenin (6D209) is recommended for detection of  $\beta$ -catenin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2  $\mu$ g per 100–500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for  $\beta$ -catenin siRNA (h): sc-29209,  $\beta$ -catenin siRNA (h2): sc-44252 and  $\beta$ -catenin siRNA (m): sc-29210.

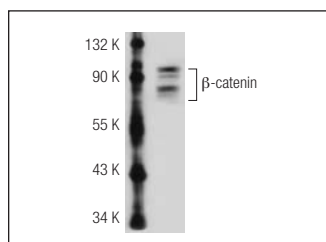
Molecular Weight of  $\beta$ -catenin: 92 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or MCF7 whole cell lysate: sc-2206.

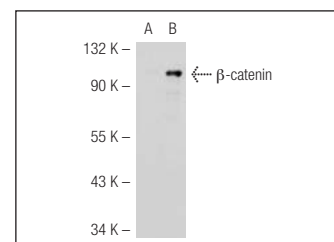
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



$\beta$ -catenin (6D209): sc-70509. Western blot analysis of  $\beta$ -catenin expression in MCF7 whole cell lysate.



$\beta$ -catenin (6D209): sc-70509. Western blot analysis of  $\beta$ -catenin expression in non-transfected: sc-117752 (A) and human  $\beta$ -catenin transfected: sc-116622 (B) 293T whole cell lysates.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.