

# δ-catenin (K-20): sc-16511

## 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.  $\delta$ -catenin interacts with presenilin 1 and is expressed in the brain. The gene encoding  $\delta$ -catenin maps to human chromosome 5p15.2. A hemizygous loss of the gene encoding  $\delta$ -catenin leads to the mental retardation associated with cri-du-Chat syndrome. In addition, the transmembrane phosphatase PTPm associates with catenin/cadherin complexes and may regulate complex signaling.

## REFERENCES

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2. Brady-Kalnay, S.M., et al. 1995. Receptor protein tyrosine phosphatase PTP associates with cadherins and catenins *in vivo*. *J. Cell Biol.* 130: 977-986.
3. Breen, E., et al. 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.
4. Pierceall, W.E., et al. 1995. Frequent alterations in E-cadherin and  $\alpha$ - and  $\beta$ -catenin expression in human breast cancer cell lines. *Oncogene* 11: 1319-1326.
5. Ozawa, M., et al. 1995. Cloning of an alternative form of plakoglobin ( $\gamma$ -catenin) lacking the fourth armadillo repeat. *J. Biochem.* 118: 836-840.
6. Sacco, P.A., et al. 1995. Identification of plakoglobin domains required for association with N-cadherin and  $\alpha$ -catenin. *J. Biol. Chem.* 270: 20201-20206.
7. Takayama, T., et al. 1996.  $\beta$ -catenin expression in human cancers. *Amer. J. Pathol.* 148: 39-46.
8. Zhou, J., et al. 1997. Presenilin 1 interaction in the brain with a novel member of the armadillo family. *Neuroreport* 8: 2085-2090.
9. Lu, Q., et al. 1999.  $\delta$ -catenin, an adhesive junction-associated protein which promotes cell scattering. *J. Cell Biol.* 144: 519-532.

## CHROMOSOMAL LOCATION

Genetic locus: CTNND2 (human) mapping to 5p15.2; Ctnnd2 (mouse) mapping to 15 B2.

## SOURCE

$\delta$ -catenin (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of  $\delta$ -catenin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16511 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

$\delta$ -catenin (K-20) is recommended for detection of  $\delta$ -catenin, also known as Catenin  $\delta$  2 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).

$\delta$ -catenin (K-20) is also recommended for detection of  $\delta$ -catenin, also known as Catenin  $\delta$  2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for  $\delta$ -catenin siRNA (h): sc-43021,  $\delta$ -catenin siRNA (m): sc-43022,  $\delta$ -catenin shRNA Plasmid (h): sc-43021-SH,  $\delta$ -catenin shRNA Plasmid (m): sc-43022-SH,  $\delta$ -catenin shRNA (h) Lentiviral Particles: sc-43021-V and  $\delta$ -catenin shRNA (m) Lentiviral Particles: sc-43022-V.

Molecular Weight of  $\delta$ -catenin: 133 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or PC-12 cell lysate: sc-2250.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (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.

## RESEARCH USE

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



Try  **$\delta$ -catenin (40.1): sc-81793**, our highly recommended monoclonal alternative to  $\delta$ -catenin (K-20).