

# δ-catenin (40.1): sc-81793

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

$\delta$ -catenin (40.1) is a mouse monoclonal antibody raised against a partial recombinant protein mapping within amino acids 1081-1190 of  $\delta$ -catenin of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

$\delta$ -catenin (40.1) is recommended for detection of  $\delta$ -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)], 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).

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: PC-12 cell lysate: sc-2250, A-431 whole cell lysate: sc-2201 or C6 whole cell lysate: sc-364373.

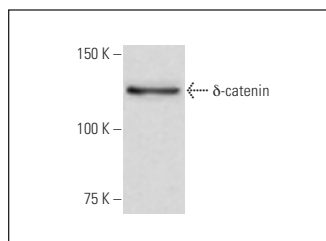
## STORAGE

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

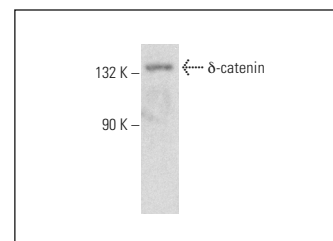
## RESEARCH USE

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

## DATA



$\delta$ -catenin (40.1): sc-81793. Western blot analysis of  $\delta$ -catenin expression in PC-12 whole cell lysate.



$\delta$ -catenin (40.1): sc-81793. Western blot analysis of  $\delta$ -catenin expression in C6 whole cell lysate.

## SELECT PRODUCT CITATIONS

- Dai, S.D., et al. 2011. Upregulation of  $\delta$ -catenin is associated with poor prognosis and enhances transcriptional activity through Kaiso in non-small-cell lung cancer. *Cancer Sci.* 102: 95-103.
- Jun, G., et al. 2012.  $\delta$ -catenin is genetically and biologically associated with cortical cataract and future Alzheimer-related structural and functional brain changes. *PLoS ONE* 7: e43728.
- Zhang, D., et al. 2014. Co-expression of  $\delta$ -catenin and RhoA is significantly associated with a malignant lung cancer phenotype. *Int. J. Clin. Exp. Pathol.* 7: 3724-3732.
- Zhang, D., et al. 2015.  $\delta$ -catenin promotes the malignant phenotype in breast cancer. *Tumour Biol.* 36: 569-575.
- Folmsbee, S.S., et al. 2016.  $\alpha$ T-catenin in restricted brain cell types and its potential connection to autism. *J. Mol. Psychiatry* 4: 2.
- van Rootselaar, A.F., et al. 2017.  $\delta$ -catenin (CTNND2) missense mutation in familial cortical myoclonic tremor and epilepsy. *Neurology* 89: 2341-2350.
- Xu, T., et al. 2019. MiR-218 regulated cardiomyocyte differentiation and migration in mouse embryonic stem cells by targeting PDGFR $\alpha$ . *J. Cell. Biochem.* 120: 4355-4365.
- Ikezu, S., et al. 2021. Inhibition of colony stimulating factor 1 receptor corrects maternal inflammation-induced microglial and synaptic dysfunction and behavioral abnormalities. *Mol. Psychiatry* 26: 1808-1831.
- Villar-Conde, S., et al. 2021. The human hippocampus in Parkinson's disease: an integrative stereological and proteomic study. *J. Parkinsons Dis.* 11: 1345-1365.
- Hu, Y., et al. 2022.  $\delta$ -catenin attenuates medulloblastoma cell invasion by targeting EMT pathway. *Front. Genet.* 13: 867872.

## PROTOCOLS

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