# SANTA CRUZ BIOTECHNOLOGY, INC.

# β-catenin siRNA (h): sc-29209



### 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.

# CHROMOSOMAL LOCATION

Genetic locus: CTNNB1 (human) mapping to 3p22.1.

#### PRODUCT

 $\beta$ -catenin siRNA (h) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see  $\beta$ -catenin shRNA Plasmid (h): sc-29209-SH and  $\beta$ -catenin shRNA (h) Lentiviral Particles: sc-29209-V as alternate gene silencing products.

#### STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu$ l of the RNAse-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNAse-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

#### **APPLICATIONS**

 $\beta$ -catenin siRNA (h) is recommended for the inhibition of  $\beta$ -catenin expression in human cells.

#### SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10  $\mu$ M in 66  $\mu$ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

#### **RESEARCH USE**

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

#### **GENE EXPRESSION MONITORING**

 $\beta$ -catenin (E-5): sc-7963 is recommended as a control antibody for monitoring of  $\beta$ -catenin gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

# **RT-PCR REAGENTS**

Semi-quantitative RT-PCR may be performed to monitor  $\beta$ -catenin gene expression knockdown using RT-PCR Primer:  $\beta$ -catenin (h)-PR: sc-29209-PR (20  $\mu$ l, 531 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

#### DATA



 $\beta$ -catenin siRNA (h): sc-29209. Western blot analysis of  $\beta$ -catenin expression in non-transfected control (**A**) and  $\beta$ -catenin siRNA transfected (**B**) HeLa cells. Blot probed with  $\beta$ -catenin (F-5): sc-7963.  $\alpha$ -actinin (H-2): sc-17829 used as specificity and loading control.

# SELECT PRODUCT CITATIONS

- Yan, W., et al. 2006. Glycogen synthase kinase-3 phosphorylation, T-cell factor signaling activation, and cell morphology change following stimulation of thromboxane receptor α. J. Pharmacol. Exp. Ther. 317: 267-274.
- Kouvidi, K., et al. 2016. Receptor for hyaluronic acid- mediated motility (RHAMM) regulates HT1080 fibrosarcoma cell proliferation via a β-catenin/c-Myc signaling axis. Biochim. Biophys. Acta 1860: 814-824.
- Oh, S., et al. 2017. Silencing of Glut1 induces chemoresistance via modulation of Akt/GSK-3β/β-catenin/survivin signaling pathway in breast cancer cells. Arch. Biochem. Biophys. 636: 110-122.
- Zhang, X., et al. 2018. Fasudil increases temozolomide sensitivity and suppresses temozolomide-resistant glioma growth via inhibiting ROCK2/ABCG2. Cell Death Dis. 9: 190.
- Lin, L., et al. 2019. The Ser/Thr kinase p90RSK promotes kidney fibrosis by modulating fibroblast-epithelial crosstalk. J. Biol. Chem. 294: 9901-9910.
- 6. Huang, W.J., et al. 2020. The  $\beta$ -catenin/TCF-4-LINC01278-miR-1258-Smad2/3 axis promotes hepatocellular carcinoma metastasis. Oncogene 39: 4538-4550.

# PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.