SANTA CRUZ BIOTECHNOLOGY, INC.

CTNNAL1 siRNA (m): sc-142621

BACKGROUND

CTNNAL1 (catenin (cadherin-associated protein), α-like 1), also known as CLLP or α-CATU, is a 734 amino acid cytoplasmic peripheral membrane protein belonging to the vinculin/α-catenin family. Expressed at high levels in adrenal gland and present at lower levels in neural tissues, CTNNAL1 may be involved in the regulation of Rho pathway signaling by providing a scaffold for the Lbc Rho guanine nucleotide exchange factor 1 (RhoGEF p115). It is suggested that CTNNAL1 is down-regulated in pancreatic carcinoma undergoing differentiation and apoptosis. Existing as three isforms produced by alternative splicing events, CTNNAL1 may contribute to the wound repair and proliferation of human bronchial epithelial cells (HBEC).

REFERENCES

1. Zhang, J.S., et al. 1998. Identification and chromosomal localization of CTNNAL1, a novel protein homologous to α-catenin. Genomics 54: 149-154.
2. Janssens, B., et al. 1999. Human α-catulin, a novel α-catenin-like molecule with conserved genomic structure, but deviating alternative splicing. Biochim. Biophys. Acta 1447: 341-347.
3. Park, B., et al. 2002. Association of Lbc Rho guanine nucleotide exchange factor with α-catenin-related protein, α-catulin/CTNNAL1, supports serum response factor activation. J. Biol. Chem. 277: 45361-45370.
4. Merdek, K.D., et al. 2004. Distinct activities of the α-catenin family, α-catulin and α-catenin, on β-catenin-mediated signaling. Mol. Cell. Biol. 24: 2410-2422.
5. Kupferman, M.E., et al. 2007. Molecular analysis of anoikis resistance in oral cavity squamous cell carcinoma. Oral Oncol. 43: 440-454.
6. Xiang, Y., et al. 2008. Wound repair and proliferation of bronchial epithelial cells regulated by CTNNAL1. J. Cell. Biochem. 103: 920-930.
7. Wiesner, C.,et al. 2008. α-catulin, a Rho signalling component, can regulate NFκB through binding to IKK-β, and confers resistance to apoptosis. Oncogene 27: 2159-2169.
8. Buimer, M., et al. 2008. Seven placental transcripts characterize HELLP-syndrome. Placenta 29: 444-453.

CHROMOSOMAL LOCATION

Genetic locus: Ctnnal1 (mouse) mapping to 4 B3.

PRODUCT

CTNNAL1 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CTNNAL1 shRNA Plasmid (m): sc-142621-SH and CTNNAL1 shRNA (m) Lentiviral Particles: sc-142621-V as alternate gene silencing products.

For independent verification of CTNNAL1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-142621A, sc-142621B and sc-142621C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CTNNAL1 siRNA (m) is recommended for the inhibition of CTNNAL1 expression in mouse 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 µM in 66 µl. 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.

GENE EXPRESSION MONITORING

CTNNAL1 (A-4): sc-390854 is recommended as a control antibody for monitoring of CTNNAL1 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CTNNAL1 gene expression knockdown using RT-PCR Primer: CTNNAL1 (m)-PR: sc-142621-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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

PROTOCOLS

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