SANTA CRUZ BIOTECHNOLOGY, INC.

# α E-catenin siRNA (r): sc-270264

## BACKGROUND

α E-catenin (also designated α-catenin; cadherin-associated protein, α1, 102 kDa; and CAP102) plays a role in E-cadherin mediated cell-cell adhesion by linking E-cadherin to the cytoskeleton via β- or γ-catenin and Actin. α E-catenin connects cell-density-dependent adherens junctions with the developmental hedgehog pathway and may provide a negative feedback loop controlling the size of developing cerebral cortex. It is abundant in neuroepithelial precursor cells in the developing cortical ventricular zone of the brain, with reduced expression in the cortical plate. α E-catenin-vinculin interactions play a role in the assembly of the apical junction complex in epithelia. Catenins generally are thought to work as connectors that anchor E-cadherin to the cytoskeletal Actin bundle through the cadherin cytoplasmic domain. Dysfunction of this adhesion complex causes dissociation of cancer cells from primary tumor nodules, thus possibly contributing to cancer invasion and metastasis.

## REFERENCES


1. Rimm, D.L., et al. 1995. α1 E-catenin is an Actin-binding and -bundling protein mediating the attachment of F-Actin to the membrane adhesion complex. Proc. Natl. Acad. Sci. USA 92: 8813-8817.
2. Linkels, M., et al. 1997. Molecular cloning of an alternative human α E-catenin cDNA. Biochem. Biophys. Res. Commun. 237: 177-181.
3. Watabe-Uchida, M., et al. 1998. α-catenin-vinculin interaction functions to organize the apical junctional complex in epithelial cells. J. Cell Biol. 142: 847-857.
4. Vermeulen, S.J., et al. 1999. The α E-catenin gene (CTNNA1) acts as an invasion-suppressor gene in human colon cancer cells. Oncogene 18: 905-915.
5. Vanpoucke, G., et al. 2002. The human α E-catenin gene CTNNA1: mutational analysis and rare occurrence of a truncated splice variant. Biochim. Biophys. Acta 1574: 262-268.
6. Andre, F., et al. 2004. α-catenin is required for IGF-I-induced cellular migration but not invasion in human colonic cancer cells. Oncogene 23: 1177-1186.


## CHROMOSOMAL LOCATION

Genetic locus: Ctnna1 (rat) mapping to 18p11.

## PRODUCT

α E-catenin siRNA (r) 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 α E-catenin shRNA Plasmid (r): sc-270264-SH and α E-catenin shRNA (r) Lentiviral Particles: sc-270264-V as alternate gene silencing products.

For independent verification of α E-catenin (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270264A, sc-270264B and sc-270264C.

## 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

α E-catenin siRNA (r) is recommended for the inhibition of α E-catenin expression in rat 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

α E-catenin (G-11): sc-9988 is recommended as a control antibody for monitoring of α E-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).

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 α E-catenin gene expression knockdown using RT-PCR Primer: α E-catenin (r)-PR: sc-270264-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.