



α T-catenin siRNA (h): sc-61904

BACKGROUND

The catenins (α , β , γ and δ) are ubiquitously expressed, cytoplasmic proteins that associate with E-cadherin at cellular junctions. Catenin/cadherin complexes play an important role in mediating cellular adhesion. α T-catenin, also referred to as VR22, is a 895 amino acid protein that is most abundantly expressed in cardiomyocytes and in the peritubular myoid cells of the testis. α T-catenin binds to α E-catenin as well as to β -catenin, and it functions to inhibit Wnt signaling. CTNNA3, the gene that encodes for α -T-catenin, is located on chromosome 10, and mutations in this gene show a strong correlation to late-onset Alzheimer's disease (LOAD) as well as to dilated cardiomyopathy.

REFERENCES

1. Ertekin-Taner, N., et al. 2000. Linkage of plasma A β 42 to a quantitative locus on chromosome 10 in late-onset Alzheimer's disease pedigrees. *Science* 290: 2303-2304.
2. Janssens, B., et al. 2001 α T-catenin: A novel tissue-specific β -catenin-binding protein mediating strong cell-cell adhesion. *J. Cell Sci.* 114: 3177-3188.
3. Ertekin-Taner, N., et al. 2003. Fine mapping of the α T-catenin gene to a quantitative trait locus on chromosome 10 in late-onset Alzheimer's disease pedigrees. *Hum. Mol. Genet.* 12: 3133-3143.
4. Janssens, B., et al. 2003. Assessment of the CTNNA3 gene encoding human α T-catenin regarding its involvement in dilated cardiomyopathy. *Hum. Genet.* 112: 227-236.
5. Busby, V., et al. 2004. α T-catenin is expressed in human brain and interacts with the Wnt signaling pathway but is not responsible for linkage to chromosome 10 in Alzheimer's disease. *Neuromol. Med.* 5: 133-146.
6. Kuwano, R., et al. 2006. Dynamin-binding protein gene on chromosome 10q is associated with late-onset Alzheimer's disease. *Hum. Mol. Gen.* 15: 2170-2182.
7. Lin, P.I., et al. 2006. Parsing the genetic heterogeneity of chromosome 12q susceptibility genes for Alzheimer's disease by family-based association analysis. *Neurogenetics* 7: 157-165.

CHROMOSOMAL LOCATION

Genetic locus: CTNNA3 (human) mapping to 10q21.3.

PRODUCT

α T-catenin siRNA (h) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see α T-catenin shRNA Plasmid (h): sc-61904-SH and α T-catenin shRNA (h) Lentiviral Particles: sc-61904-V as alternate gene silencing products.

For independent verification of α T-catenin (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61904A, sc-61904B and sc-61904C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

α T-catenin siRNA (h) is recommended for the inhibition of α T-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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

α T-catenin (B-6): sc-398138 is recommended as a control antibody for monitoring of α T-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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 T-catenin gene expression knockdown using RT-PCR Primer: α T-catenin (h)-PR: sc-61904-PR (20 μ l). 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.