SANTA CRUZ BIOTECHNOLOGY, INC.

T1-cadherin siRNA (h): sc-106588

BACKGROUND

The cadherins are a family of Ca^{2+}-dependent adhesion molecules that function to mediate cell-cell binding critical to the maintenance of structure and morphogenesis. Cadherins each contain a large extracellular domain at the N-terminus, which is characterized by a series of five homologous repeats, the most distal of which is thought to be responsible for binding specificity. T1-cadherin, also known as CDH9 (cadherin 9, type 2), is a 789 amino acid single-pass type I membrane protein that belongs to the cadherin superfamily and contains five cadherin domains. Expressed in brain and kidney, T1-cadherin functions as a calcium-dependent cell adhesion protein and mediates homophilic but not heterophilic cell interactions. T1-cadherin is considered to be a novel and reliable cell surface marker for fibroblasts in healthy and diseased kidney. The gene encoding T1-cadherin maps to human chromosome 5p14.1, which contains 181 million base pairs and comprises nearly 6% of the human genome.

REFERENCES

1. Suzuki, S., et al. 1991. Diversity of the cadherin family: evidence for eight new cadherins in nervous tissue. Cell Regul. 2: 261-270.
2. Kremmidiotis, G., et al. 1998. Localization of human cadherin genes to chromosome regions exhibiting cancer-related loss of heterozygosity. Genomics 49: 467-471.
3. Kools, P., et al. 1999. The human cadherin-10 gene: complete coding sequence, predominant expression in the brain, and mapping on chromosome 5p13-14. FEBS Lett. 452: 328-334.
4. Nollet, F., et al. 2000. Phylogenetic analysis of the cadherin superfamily allows identification of six major subfamilies besides several solitary members. J. Mol. Biol. 299: 551-572.
5. Gil, O.D., et al. 2002. Developmental patterns of cadherin expression and localization in relation to compartmentalized thalamocortical terminations in rat barrel cortex. J. Comp. Neurol. 453: 372-388.
6. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609974: World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: CDH9 (human) mapping to 5p14.1.

PRODUCT

T1-cadherin 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see T1-cadherin shRNA Plasmid (h): sc-106588-SH and T1-cadherin shRNA (h) Lentiviral Particles: sc-106588-V as alternate gene silencing products.

For independent verification of T1-cadherin (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-106588A, sc-106588B and sc-106588C.

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

T1-cadherin siRNA (h) is recommended for the inhibition of T1-cadherin 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor T1-cadherin gene expression knockdown using RT-PCR Primer: T1-cadherin (h)-PR: sc-106588-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.