SANTA CRUZ BIOTECHNOLOGY, INC.

cadherin-19 siRNA (h): sc-72774

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. Cadherin-19, also known as CDH19, CDH7 or CDH7L2, is a 772 amino acid single-pass type I membrane protein that contains 5 cadherin domains. Expressed in a variety of tissues, cadherin-19 functions as a Ca^{2+}-dependent cell-cell adhesion glycoprotein that is thought to be involved in the sorting of heterogeneous cell types. The gene encoding cadherin-19 maps to a cadherin cluster on human chromosome 18, a chromosome which houses over 300 protein-coding genes and contains nearly 76 million bases.

REFERENCES

1. Kremmidiotis, G., Baker, E., Crawford, J., Eyre, H.J., Nahmias, J. and Callen, D.F. 1998. Localization of human cadherin genes to chromosome regions exhibiting cancer-related loss of heterozygosity. Genomics 49: 467-471.
2. Shimoyama, Y., Tsujimoto, G., Kitajima, M. and Natori, M. 2000. Identification of three human type-II classic cadherins and frequent heterophilic interactions between different subclasses of type-II classic cadherins. Biochem. J. 349: 159-167.
3. Kools, P., Van Imschoot, G. and van Roy, F. 2000. Characterization of three novel human cadherin genes (CDH7, CDH19 and CDH20) clustered on chromosome 18q22-q23 and with high homology to chicken cadherin-7. Genomics 68: 283-295.
4. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 603016. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Hajra, K.M. and Fearon, E.R. 2002. Cadherin and catenin alterations in human cancer. Genes Chromosomes Cancer 34: 255-268.

CHROMOSOMAL LOCATION

Genetic locus: CDH19 (human) mapping to 18q22.1.

PRODUCT

cadherin-19 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 cadherin-19 shRNA Plasmid (h): sc-72774-SH and cadherin-19 shRNA (h) Lentiviral Particles: sc-72774-V as alternate gene silencing products.

For independent verification of cadherin-19 (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-72774A, sc-72774B and sc-72774C.

PROTOCOLS

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

cadherin-19 siRNA (h) is recommended for the inhibition of cadherin-19 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.

GENE EXPRESSION MONITORING

cadherin-19 (D-1): sc-376990 is recommended as a control antibody for monitoring of cadherin-19 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 cadherin-19 gene expression knockdown using RT-PCR Primer: cadherin-19 (h)-PR: sc-72774-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.