

PCDH10 siRNA (h): sc-88975

BACKGROUND

Protocadherins are a large family of cadherin-like cell adhesion proteins that are involved in the establishment and maintenance of neuronal connections in the brain. There are three protocadherin gene clusters, designated α , β and γ , all of which contain multiple tandemly arranged genes. PCDH10 (protocadherin 10), also known as PCDH19 or OL-PCDH, is a 1,040 amino acid single-pass type I membrane protein that contains six cadherin domains and one transmembrane domain. Expressed at moderate levels in brain, ovary and testis and present at lower levels in all other tissues, PCDH10 functions as a calcium-dependent cell-adhesion protein that may function as a tumor suppressor. When underexpressed, PCDH10 is associated with the progression of various carcinomas, including gastric cancer.

REFERENCES

1. Wu, Q., et al. 1999. A striking organization of a large family of human neural cadherin-like cell adhesion genes. *Cell* 97: 779-790.
2. Yagi, T., et al. 2000. Cadherin superfamily genes: functions, genomic organization, and neurologic diversity. *Genes Dev.* 14: 1169-1180.
3. 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.
4. Wu, Q., et al. 2001. Comparative DNA sequence analysis of mouse and human protocadherin gene clusters. *Genome Res.* 11: 389-404.
5. Wolverson, T., et al. 2001. Identification and characterization of three members of a novel subclass of protocadherins. *Genomics* 76: 66-72.
6. Ying, J., et al. 2006. Functional epigenetics identifies a protocadherin PCDH10 as a candidate tumor suppressor for nasopharyngeal, esophageal and multiple other carcinomas with frequent methylation. *Oncogene* 25: 1070-1080.
7. Nakao, S., et al. 2008. Contact-dependent promotion of cell migration by the OL-protocadherin-NAP1 interaction. *J. Cell Biol.* 182: 395-410.

CHROMOSOMAL LOCATION

Genetic locus: PCDH10 (human) mapping to 4q28.3.

PRODUCT

PCDH10 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 PCDH10 shRNA Plasmid (h): sc-88975-SH and PCDH10 shRNA (h) Lentiviral Particles: sc-88975-V as alternate gene silencing products.

For independent verification of PCDH10 (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-88975A, sc-88975B and sc-88975C.

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 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

PCDH10 siRNA (h) is recommended for the inhibition of PCDH10 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

PCDH10 (2-YD37): sc-134415 is recommended as a control antibody for monitoring of PCDH10 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 PCDH10 gene expression knockdown using RT-PCR Primer: PCDH10 (h)-PR: sc-88975-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.