SANTA CRUZ BIOTECHNOLOGY, INC.

PCDH7 siRNA (h): sc-88977

BACKGROUND

As a subfamily of the cadherin superfamily, protocadherins are cadherin-like cell adhesion proteins that contain up to seven extracellular domains and are predominantly expressed in the nervous system. Importantly, the adhesion mechanism of protocadherins is distinct from classic cadherins. Through inactivation or overexpression, several protocadherins have been implicated in a variety of cancers. PCDH7 (protocadherin 7), also known as BHPCDH or BH-Pcdh, is a 1,069 amino acid single-pass I membrane protein that is expressed in the brain and heart. Containing seven cadherin domains, PCDH7 is thought to function in cell-cell recognition and adhesion. PCDH7 exists as three isoforms due to alternative splicing events.

REFERENCES

1. Yoshida, K., et al. 1998. Cloning, expression analysis, and chromosomal localization of BH-protocadherin (PCDH7), a novel member of the cadherin superfamily. Genomics 49: 458-461.
2. Yoshida, K., et al. 1999. cDNA cloning and chromosomal mapping of mouse BH-protocadherin. DNA Seq. 10: 43-47.
3. Yoshida, K., et al. 1999. BH-protocadherin-c, a member of the cadherin superfamily, interacts with protein phosphatase 1 α through its intracellular domain. FEBS Lett. 460: 93-98.
4. Zhang, Z. and DuBois, R.N. 2001. Detection of differentially expressed genes in human colon carcinoma cells treated with a selective COX-2 inhibitor. Oncogene 20: 4450-4456.
5. Yoshida, K. 2003. Fibroblast cell shape and adhesion *in vitro* is altered by overexpression of the 7a and 7b isoforms of protocadherin 7, but not the 7c isoform. Cell. Mol. Biol. Lett. 8: 735-741.
6. Morishita, H. and Yagi, T. 2007. Protocadherin family: diversity, structure, and function. Curr. Opin. Cell Biol. 19: 584-592.
7. Kim, S.Y., et al. 2007. Spatiotemporal expression pattern of non-clustered protocadherin family members in the developing rat brain. Neuroscience 147: 996-1021.

CHROMOSOMAL LOCATION

Genetic locus: PCDH7 (human) mapping to 4p15.1.

PRODUCT

PCDH7 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 PCDH7 shRNA Plasmid (h): sc-88977-SH and PCDH7 shRNA (h) Lentiviral Particles: sc-88977-V as alternate gene silencing products.

For independent verification of PCDH7 (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-88977A, sc-88977B and sc-88977C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

PCDH7 siRNA (h) is recommended for the inhibition of PCDH7 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

PCDH7 (2D7): sc-517042 is recommended as a control antibody for monitoring of PCDH7 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 PCDH7 gene expression knockdown using RT-PCR Primer: PCDH7 (h)-PR: sc-88977-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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