

PCDHA10 siRNA (h): sc-106366

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. These genes generate thousands of different protocadherin proteins through alternative promoter usage and *cis*-alternative splicing. PCDHA and PCDHG family members form oligomers, which also increases the diversity of PCDH proteins at the cell surface. All three gene clusters, PCDHA, PCDHB, and PCDHG show upregulated expression during brain development, and PCDHA is subsequently downregulated by myelination. Expression of all three clusters continues in the olfactory bulb, hippocampus and cerebellum until adulthood. Members of the PCDH family are potential targets in schizophrenia and bipolar disorder pathogenesis. PCDHA10 produces at least three isoforms by alternative splicing.

REFERENCES

1. Wu, Q., et al. 2001. Comparative DNA sequence analysis of mouse and human protocadherin gene clusters. *Genome Res.* 11: 389-404.
2. Vanhalst, K., et al. 2001. The human and murine protocadherin- β one-exon gene families show high evolutionary conservation, despite the difference in gene number. *FEBS Lett.* 495: 120-125.
3. Morgan, M. 2008. Models for the recent evolution of protocadherin gene clusters. *Biocell* 32: 9-26.
4. Yagi, T. 2008. Clustered protocadherin family. *Dev. Growth Differ.* 1: S131-S140.
5. Lachman, H.M., et al. 2008. Analysis of protocadherin α gene deletion variant in bipolar disorder and schizophrenia. *Psychiatr. Genet.* 18: 110-115.
6. Pedrosa, E., et al. 2008. Analysis of protocadherin α gene enhancer polymorphism in bipolar disorder and schizophrenia. *Schizophr. Res.* 102: 210-219.

CHROMOSOMAL LOCATION

Genetic locus: PCDHA10 (human) mapping to 5q31.3.

PRODUCT

PCDHA10 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 PCDHA10 shRNA Plasmid (h): sc-106366-SH and PCDHA10 shRNA (h) Lentiviral Particles: sc-106366-V as alternate gene silencing products.

For independent verification of PCDHA10 (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-106366A, sc-106366B and sc-106366C.

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 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

PCDHA10 siRNA (h) is recommended for the inhibition of PCDHA10 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

PCDHA10 (JH-86): sc-130462 is recommended as a control antibody for monitoring of PCDHA10 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 PCDHA10 gene expression knockdown using RT-PCR Primer: PCDHA10 (h)-PR: sc-106366-PR (20 μ l). 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.