SANTA CRUZ BIOTECHNOLOGY, INC.

PCDH11Y siRNA (h): sc-91542

BACKGROUND

Protocadherins (PCDHs) are a subfamily of cadherins, a large group of related glycoproteins that mediate calcium-dependent cell-cell adhesion via a homophilic mechanism. Involved in a variety of functions, protocadherins help to regulate neural development and synapse formation. PCDH11Y (protocadherin 11 Y-linked), also known as PCDHY (protocadherin on the Y chromosome), PCDH22 or PCDH-PC (protocadherin prostate cancer), is a 1,340 amino acid single-pass type I membrane protein and probable calcium-dependent cell-adhesion protein that is encoded by a gene that maps to human chromosome Yp11.2. A member of the cadherin super family and highly expressed in brain, PCDH11Y is also found at lower levels in testis and apoptosis-resistant cells. PCDH11Y contains seven cadherin domains and exists as four alternatively spliced isoforms.

REFERENCES

1. Mumm, S., et al. 1997. Evolutionary features of the 4-Mb Xq21.3 XY homology region revealed by a map at 60-kb resolution. Genome Res. 7: 307-314.
2. Schwartz, A., et al. 1998. Reconstructing hominid Y evolution: X-homologous block, created by X-Y transposition, was disrupted by Yp inversion through LINE-LINE recombination. Hum. Mol. Genet. 7: 1-11.
3. Ciccodicola, A., et al. 2000. Differentially regulated and evolved genes in the fully sequenced Xq/Yq pseudoautosomal region. Hum. Mol. Genet. 9: 395-401.
4. Blanco, P., et al. 2000. Conservation of PCDHX in mammals; expression of human X/Y genes predominantly in brain. Mamm. Genome 11: 906-914.
5. Tilford, C.A., et al. 2001. A physical map of the human Y chromosome. Nature 409: 943-945.
6. Chen, M.W., et al. 2002. The emergence of protocadherin-PC expression during the acquisition of apoptosis-resistance by prostate cancer cells. Oncogene 21: 7861-7871.
7. Yang, X., et al. 2005. A human- and male-specific protocadherin that acts through the wnt signaling pathway to induce neuroendocrine transdifferentiation of prostate cancer cells. Cancer Res. 65: 5263-5271.
8. Jobling, M.A., et al. 2007. Structural variation on the short arm of the human Y chromosome: recurrent multigene deletions encompassing Amelogenin Y. Hum. Mol. Genet. 16: 307-316.

CHROMOSOMAL LOCATION

Genetic locus: PCDH11Y (human) mapping to Yp11.2.

PRODUCT

PCDH11Y siRNA (h) is a target-specific 19-25 nt siRNA 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 PCDH11Y shRNA Plasmid (h): sc-91542-SH and PCDH11Y shRNA (h) Lentiviral Particles: sc-91542-V as alternate gene silencing 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

PCDH11Y siRNA (h) is recommended for the inhibition of PCDH11Y 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

PCDH11X/Y (D-2): sc-514085 is recommended as a control antibody for monitoring of PCDH11Y 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 PCDH11Y gene expression knockdown using RT-PCR Primer: PCDH11Y (h)-PR: sc-91542-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.