SANTA CRUZ BIOTECHNOLOGY, INC.

PCDHA9 siRNA (m): sc-106386

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. PCDHA9 (protocadherin α 9), also known as KIAA0345, is a 950 amino acid single-pass type I membrane protein that contains six cadherin domains and is encoded by a gene which is located within the protocadherin α gene cluster on human chromosome 5. Existing as multiple alternatively spliced isoforms, PCDHA9 functions as a potential calcium-dependent cell adhesion protein that may be involved in the establishment and maintenance of neuronal connections within the brain.

REFERENCES

1. Suzuki, S.T. 2000. Recent progress in protocadherin research. Exp. Cell Res. 261: 13-18.
2. Yagi, T. and Takeichi, M. 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. and Maniatis, T. 2000. Large exons encoding multiple ectodomains are a characteristic feature of protocadherin genes. Proc. Natl. Acad. Sci. USA 97: 3124-3129.
5. Wu, Q., et al. 2001. Comparative DNA sequence analysis of mouse and human protocadherin gene clusters. Genome Res. 11: 389-404.
6. Noonan, J.P., et al. 2003. Extensive linkage disequilibrium, a common 16.7-kilobase deletion, and evidence of balancing selection in the human protocadherin α cluster. Am. J. Hum. Genet. 72: 621-635.
7. Ribich, S., et al. 2006. Identification of long-range regulatory elements in the protocadherin-α gene cluster. Proc. Natl. Acad. Sci. USA 103: 19719-19724.

CHROMOSOMAL LOCATION

Genetic locus: Pcdha9 (mouse) mapping to 18 B3.

PRODUCT

PCDHA9 siRNA (m) 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 PCDHA9 shRNA Plasmid (m): sc-106386-SH and PCDHA9 shRNA (m) Lentiviral Particles: sc-106386-V as alternate gene silencing products.

For independent verification of PCDHA9 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-106386A, sc-106386B and sc-106386C.

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

PCDHA9 siRNA (m) is recommended for the inhibition of PCDHA9 expression in mouse 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PCDHA9 gene expression knockdown using RT-PCR Primer: PCDHA9 (m)-PR: sc-106386-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Teekakirikul, P., et al. 2021. Common deletion variants causing protocadherin-α deficiency contribute to the complex genetics of BAV and left-sided congenital heart disease. HGG Adv. 2: 100037.

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.