

Pcdhgb6 siRNA (m): sc-152100

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. The protocadherin γ cluster consists of three subfamilies (A, B and C). As a member of the γ subfamily B, PCDHGB6 (protocadherin γ B6) is a 930 amino acid protein that is one of 22 proteins encoded by the protocadherin γ cluster. Typical of γ protocadherins, PCDHGB6 contains six cadherin motifs and is a type I transmembrane receptor expressed in the central nervous system. With localization to synapses, members of the γ cluster of protocadherins are essential for neuronal survival. There are two isoforms of PCDHGB6 that are produced as a result of alternative splicing events.

REFERENCES

1. Wu, Q. and Maniatis, T. 1999. A striking organization of a large family of human neural cadherin-like cell adhesion genes. *Cell* 97: 779-790.
2. Wu, Q., Zhang, T., Cheng, J.F., Kim, Y., Grimwood, J., Schmutz, J., Dickson, M., Noonan, J.P., Zhang, M.Q., Myers, R.M. and Maniatis, T. 2001. Comparative DNA sequence analysis of mouse and human protocadherin gene clusters. *Genome Res.* 11: 389-404.
3. Wang, X., Weiner, J.A., Levi, S., Craig, A.M., Bradley, A. and Sanes, J.R. 2002. γ protocadherins are required for survival of spinal interneurons. *Neuron* 36: 843-854.
4. Kirov, G., Georgieva, L., Williams, N., Nikolov, I., Norton, N., Toncheva, D., O'Donovan, M. and Owen, M.J. 2003. Variation in the protocadherin γ A gene cluster. *Genomics* 82: 433-440.
5. Frank, M., Ebert, M., Shan, W., Phillips, G.R., Arndt, K., Colman, D.R. and Kemler, R. 2005. Differential expression of individual γ -protocadherins during mouse brain development. *Mol. Cell. Neurosci.* 29: 603-616.
6. Reiss, K., Maretzky, T., Haas, I.G., Schulte, M., Ludwig, A., Frank, M. and Saftig, P. 2006. Regulated ADAM10-dependent ectodomain shedding of γ -protocadherin C3 modulates cell-cell adhesion. *J. Biol. Chem.* 281: 21735-21744.
7. Bonn, S., Seeburg, P.H. and Schwarz, M.K. 2007. Combinatorial expression of α - and γ -protocadherins alters their presenilin-dependent processing. *Mol. Cell. Biol.* 27: 4121-4132.
8. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 606303. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: Pcdhgb6 (mouse) mapping to 18 B3.

PROTOCOLS

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

PRODUCT

Pcdhgb6 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Pcdhgb6 shRNA Plasmid (m): sc-152100-SH and Pcdhgb6 shRNA (m) Lentiviral Particles: sc-152100-V as alternate gene silencing products.

For independent verification of Pcdhgb6 (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-152100A, sc-152100B and sc-152100C.

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

Pcdhgb6 siRNA (m) is recommended for the inhibition of Pcdhgb6 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Pcdhgb6 gene expression knockdown using RT-PCR Primer: Pcdhgb6 (m)-PR: sc-152100-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.