

TMEM179B siRNA (m): sc-154417

BACKGROUND

TMEM179B (transmembrane protein 179B) is a 219 amino acid protein that belongs to the TMEM179 family. Considered a multi-pass membrane protein, TMEM179B is integral to the membrane of cells. TMEM179B is encoded by a gene located on human chromosome 11, which often translocates with chromosome 17 possibly contributing to human myeloid leukemia. It has been suggested that the germ-line deletion of chromosome 11p13 is the first of two or more steps to cancer in AGR triad (aniridia, genito-urinary abnormalities and mental retardation) children. Mutations or changes to the short arm of chromosome 11 has been correlated with major affective disorders which are a group of illnesses manifested by disturbances in mood and in physiological, cognitive and endocrine functions, including bipolar affective disorders. The gene encoding the cardiac isoform of myosin binding protein-C has recently been assigned to chromosome 11p11.2 and proposed as a candidate FHC (familial hypertrophic cardiomyopathy) gene.

REFERENCES

1. Fearon, E.R., Vogelstein, B. and Feinberg, A.P. 1984. Somatic deletion and duplication of genes on chromosome 11 in Wilms' tumours. *Nature* 309: 176-178.
2. Egeland, J.A., Gerhard, D.S., Pauls, D.L., Sussex, J.N., Kidd, K.K., Allen, C.R., Hostetter, A.M. and Housman, D.E. 1987. Bipolar affective disorders linked to DNA markers on chromosome 11. *Nature* 325: 783-787.
3. Watkins, H., Conner, D., Thierfelder, L., Jarcho, J.A., MacRae, C., McKenna, W.J., Maron, B.J., Seidman, J.G. and Seidman, C.E. 1995. Mutations in the cardiac myosin binding protein-C gene on chromosome 11 cause familial hypertrophic cardiomyopathy. *Nat. Genet.* 11: 434-437.
4. Nakamura, T., Largaespada, D.A., Lee, M.P., Johnson, L.A., Ohyashiki, K., Toyama, K., Chen, S.J., Willman, C.L., Chen, I.M., Feinberg, A.P., Jenkins, N.A., Copeland, N.G. and Shaughnessy, J.D. 1996. Fusion of the nucleoporin gene NUP98 to HOXA9 by the chromosome translocation t(7;11)(p15;p15) in human myeloid leukaemia. *Nat. Genet.* 12: 154-158.
5. Björling, E. and Uhlen, M. 2008. Antibodypedia, a portal for sharing antibody and antigen validation data. *Mol. Cell. Proteomics* 7: 2028-2037.
6. Yilmaz, S., Boffito, M., Collot-Teixeira, S., De Lorenzo, F., Waters, L., Fletcher, C., Back, D., Pozniak, A., Gazzard, B. and McGregor, J.L. 2010. Investigation of low-dose ritonavir on human peripheral blood mononuclear cells using gene expression whole genome microarrays. *Genomics* 96: 57-65.
7. Herrera, M.B., Fonsato, V., Gatti, S., Deregibus, M.C., Sordi, A., Cantarella, D., Calogero, R., Bussolati, B., Tetta, C. and Camussi, G. 2010. Human liver stem cell-derived microvesicles accelerate hepatic regeneration in hepatotomized rats. *J. Cell. Mol. Med.* 14: 1605-1618.
8. SWISS-PROT/TrEMBL (Q7Z7N9). World Wide Web URL: <http://www.uniprot.org/uniprot/Q7Z7N9>

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Tmem179b (mouse) mapping to 19 A.

PRODUCT

TMEM179B siRNA (m) is a pool of 2 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 TMEM179B shRNA Plasmid (m): sc-154417-SH and TMEM179B shRNA (m) Lentiviral Particles: sc-154417-V as alternate gene silencing products.

For independent verification of TMEM179B (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-154417A and sc-154417B.

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

TMEM179B siRNA (m) is recommended for the inhibition of TMEM179B 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 TMEM179B gene expression knockdown using RT-PCR Primer: TMEM179B (m)-PR: sc-154417-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.