

TMCC1 siRNA (m): sc-154321

BACKGROUND

TMCC1 (transmembrane and coiled-coil domains protein 1) is a 653 amino acid multi-pass membrane protein that belongs to the TEX28 family. The gene encoding TMCC1 maps to human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. Key tumor suppressing genes on chromosome 3 include those that encode the apoptosis mediator RASSF1, the cell migration regulator HYAL1 and the angiogenesis suppressor SEMA3B. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

1. Hanna, M.C., Platts, J.T. and Kirkness, E.F. 1997. Identification of a gene within the tandem array of red and green color pigment genes. *Genomics* 43: 384-386.
2. Braga, E.A., Kashuba, V.I., Maliukova, A.V., Loginov, V.I., Senchenko, V.N., Bazov, I.V., Kiselev, L.L. and Zabarovskii, E.R. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification. *Mol. Biol.* 37: 194-211.
3. Tsend-Ayush, E., Grützner, F., Yue, Y., Grossmann, B., Hänsel, U., Sudbrak, R. and Haaf, T. 2004. Plasticity of human chromosome 3 during primate evolution. *Genomics* 83: 193-202.
4. Darai, E., Kost-Alimova, M., Kiss, H., Kansoul, H., Kleinm, G. and Imreh, S. 2005. Evolutionarily plastic regions at human 3p21.3 coincide with tumor breakpoints identified by the "elimination test". *Genomics* 86: 1-12.
5. Olsen, J.V., Blagoev, B., Gnad, F., Macek, B., Kumar, C., Mortensen, P. and Mann, M. 2006. Global, *in vivo*, and site-specific phosphorylation dynamics in signaling networks. *Cell* 127: 635-648.
6. Michielse, C.B., Bhat, M., Brady, A., Jafrid, H., van den Hurk, J.A., Raashid, Y., Brunner, H.G., van Bokhoven, H. and Padberg, G.W. 2006. Refinement of the locus for hereditary congenital facial palsy on chromosome 3q21 in two unrelated families and screening of positional candidate genes. *Eur. J. Hum. Genet.* 14: 1306-1312.
7. Muzny, D.M., Scherer, S.E., Kaul, R., Wang, J., Yu, J., Sudbrak, R., Buhay, C.J., Chen, R., Cree, A., Ding, Y., Dugan-Rocha, S., Gill, R., Gunaratne, P., Harris, R.A., Hawes, A.C. et al. 2006. The DNA sequence, annotation and analysis of human chromosome 3. *Nature* 440: 1194-1198.
8. Bechtel, S., Rosenfelder, H., Duda, A., Schmidt, C.P., Ernst, U., Wellenreuther, R., Mehrle, A., Schuster, C., Bahr, A., Blöcker, H., Heubner, D., Hoerlein, A., Michel, G., Wedler, H., Köhrer, K., Ottenwälder, B., et al. 2007. The full-ORF clone resource of the German cDNA Consortium. *BMC Genomics* 8: 399.
9. Daub, H., Olsen, J.V., Bairlein, M., Gnad, F., Oppermann, F.S., Körner, R., Greff, Z., Keri, G., Stemmann, O. and Mann, M. 2008. Kinase-selective enrichment enables quantitative phosphoproteomics of the kinome across the cell cycle. *Mol. Cell* 31: 438-448.

CHROMOSOMAL LOCATION

Genetic locus: Tmcc1 (mouse) mapping to 6 E3.

PRODUCT

TMCC1 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TMCC1 shRNA Plasmid (m): sc-154321-SH and TMCC1 shRNA (m) Lentiviral Particles: sc-154321-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 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

TMCC1 siRNA (m) is recommended for the inhibition of TMCC1 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 TMCC1 gene expression knockdown using RT-PCR Primer: TMCC1 (m)-PR: sc-154321-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.

PROTOCOLS

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