

TMCO6 siRNA (m): sc-154329

BACKGROUND

TMCO6 (transmembrane and coiled-coil domain-containing protein 6) is a 493 amino acid multi-pass membrane protein that exists as two alternatively spliced isoforms. The gene that encodes TMCO6 consists of nearly 6,000 bases and maps to human chromosome 5q31.3. Chromosome 5 contains 181 million base pairs and comprises nearly 6% of the human genome. Chromosome 5 is associated with Cockayne syndrome through the ERCC8 gene and familial adenomatous polyposis through the adenomatous polyposis coli (APC) tumor suppressor gene. Treacher Collins syndrome is also chromosome 5-associated and is caused by insertions or deletions within the TCOF1 gene. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm or of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

1. Edwards, S.J., Gladwin, A.J. and Dixon, M.J. 1997. The mutational spectrum in Treacher Collins syndrome reveals a predominance of mutations that create a premature-termination codon. *Am. J. Hum. Genet.* 60: 515-524.
2. McDaniel, L.D., Legerski, R., Lehmann, A.R., Friedberg, E.C. and Schultz, R.A. 1997. Confirmation of homozygosity for a single nucleotide substitution mutation in a Cockayne syndrome patient using monoallelic mutation analysis in somatic cell hybrids. *Hum. Mutat.* 10: 317-321.
3. Crawford, M.J., Lanctôt, C., Tremblay, J.J., Jenkins, N., Gilbert, D., Copeland, N., Beatty, B. and Drouin, J. 1997. Human and murine PTX1/Ptx1 gene maps to the region for Treacher Collins syndrome. *Mamm. Genome* 8: 841-845.
4. Finch, R., Moore, H.G., Lindor, N., Jalal, S.M., Markowitz, A., Suresh, J., Offit, K. and Guillem, J.G. 2005. Familial adenomatous polyposis and mental retardation caused by a *de novo* chromosomal deletion at 5q15-q22: report of a case. *Dis. Colon Rectum.* 48: 2148-2152.
5. Anindya, R., Aygün, O. and Svejstrup, J.Q. 2007. Damage-induced ubiquitylation of human RNA polymerase II by the ubiquitin ligase Nedd4, but not Cockayne syndrome proteins or BRCA1. *Mol. Cell* 28: 386-397.
6. Vera-Carbonell, A., Bafalliu, J.A., Guillen-Navarro, E., Escalona, A., Ballesta-Martínez, M.J., Fuster, C., Fernández, A. and López-Expósito, I. 2009. Characterization of a *de novo* complex chromosomal rearrangement in a patient with Cri-du-chat and trisomy 5p syndromes. *Am. J. Med. Genet. A* 149A: 2513-2521.
7. Ravandi, F., Issa, J.P., Garcia-Manero, G., O'Brien, S., Pierce, S., Shan, J., Borthakur, G., Verstovsek, S., Faderl, S., Cortes, J. and Kantarjian, H. 2009. Superior outcome with hypomethylating therapy in patients with acute myeloid leukemia and high-risk myelodysplastic syndrome and chromosome 5 and 7 abnormalities. *Cancer* 115: 5746-5751.
8. Sazawal, S., Kumar, B., Hasan, S.K., Dutta, P., Kumar, R., Chaubey, R., Mir, R. and Saxena, R. 2009. Haematological & molecular profile of acute myelogenous leukaemia in India. *Indian J. Med. Res.* 129: 256-261.

CHROMOSOMAL LOCATION

Genetic locus: Tmco6 (mouse) mapping to 18 B2.

PRODUCT

TMCO6 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 TMCO6 shRNA Plasmid (m): sc-154329-SH and TMCO6 shRNA (m) Lentiviral Particles: sc-154329-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

TMCO6 siRNA (m) is recommended for the inhibition of TMCO6 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 TMCO6 gene expression knockdown using RT-PCR Primer: TMCO6 (m)-PR: sc-154329-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.