SANTA CRUZ BIOTECHNOLOGY, INC.

CMTM2a siRNA (m): sc-142418

BACKGROUND

Chemokines are members of a superfamily of small inducible, secreted, pro-inflammatory cytokines. Members of the chemokine-like factor superfamily (CKLFSF) share similarities with both chemokine and transmembrane 4 superfamilies of signaling molecules. As a member of the CKLFSF family of proteins, CMTM2 (CKLF-like MARVEL transmembrane domain containing 2), also known as CKLFSF2 or chemokine-like factor superfamily member 2, is a 248 amino acid multi-pass membrane protein that contains one MARVEL domain. CMTM2 is highly expressed in testis where it is suggested to play a role in testicular development, meiosis and spermiogenesis. The gene encoding CMTM2 maps to human chromosome 16, which encodes over 900 genes in approximately 90 million base pairs, makes up nearly 3% of human cellular DNA and is associated with a variety of genetic disorders. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth.

REFERENCES

1. Han, W., et al. 2003. Identification of eight genes encoding chemokine-like factor superfamily members 1-8 (CKLFSF1-8) by in silico cloning and experimental validation. Genomics 81: 609-617.
2. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607885. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Xu, M., et al. 2005. A functional promoter region of the CKLFSF2 gene is located in the last intron/exon region of the upstream CKLFSF1 gene. Int. J. Biochem. Cell Biol. 37: 1296-1307.
4. Shi, S., et al. 2005. CKLFSF2 is highly expressed in testis and can be secreted into the seminiferous tubules. Int. J. Biochem. Cell Biol. 37: 1633-1640.
5. Liu, G., et al. 2007. Expression and localization of CKLFSF2 in human spermatogenesis. Asian J. Androl. 9: 189-198.

CHROMOSOMAL LOCATION

Genetic locus: Cmtm2a (mouse) mapping to 8 D3.

PRODUCT

CMTM2a 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 CMTM2a shRNA Plasmid (m): sc-142418-SH and CMTM2a shRNA (m) Lentiviral Particles: sc-142418-V as alternate gene silencing products.

For independent verification of CMTM2a (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-142418A, sc-142418B and sc-142418C.

PROTOCOLS

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

CMTM2a siRNA (m) is recommended for the inhibition of CMTM2a 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 CMTM2a gene expression knockdown using RT-PCR Primer: CMTM2a (m)-PR: sc-142418-PR (20 µl). 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.