SANTA CRUZ BIOTECHNOLOGY, INC.

CMTM3 siRNA (h): sc-93145

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, CMTM3 (CKLF-like MARVEL transmembrane domain-containing protein 3), also known as Chemokine-like factor superfamily member 3, is a 182 amino acid membrane protein that is expressed in placenta, testis and leukocytes. The gene encoding CMTM3 resides in a tight gene cluster on human chromosome 16 with CKLF, CMTM1, CMTM2 and CMTM4. Silencing or down-regulation of CMTM3 due to aberrant promoter CpG methylation of its gene is frequently observed in common carcinomas, suggesting that CMTM3 is a tumor supressor. CMTM3 also seems to repress activation of AR (androgen receptor) and may therefore play a role in the maturation and maintenance of male reproduction. There are two isoforms of CMTM3 that are produced as a result of alternative splicing events.

REFERENCES

1. Fernandez, E.J., et al. 2002. Structure, function, and inhibition of chemokines. Annu. Rev. Pharmacol. Toxicol. 42: 469-499.
2. 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.
3. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607886. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Laing, K.J., et al. 2004. Chemokines. Dev. Comp. Immunol. 28: 443-460.
5. Zhong, J., et al. 2006. Characterization and expression profile of CMTM3/CKLFSF3. J. Biochem. Mol. Biol. 39: 537-545.
6. Wang, Y., et al. 2008. CMTM3 can affect the transcription activity of androgen receptor and inhibit the expression level of PSA in LNCaP cells. Biochem. Biophys. Res. Commun. 371: 54-58.

CHROMOSOMAL LOCATION

Genetic locus: CMTM3 (human) mapping to 16q21.

PRODUCT

CMTM3 siRNA (h) 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 CMTM3 shRNA Plasmid (h): sc-93145-SH and CMTM3 shRNA (h) Lentiviral Particles: sc-93145-V as alternate gene silencing products.

For independent verification of CMTM3 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-93145A, sc-93145B and sc-93145C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

CMTM3 siRNA (h) is recommended for the inhibition of CMTM3 expression in human 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 CMTM3 gene expression knockdown using RT-PCR Primer: CMTM3 (h)-PR: sc-93145-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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