SANTA CRUZ BIOTECHNOLOGY, INC.

TM4SF1 siRNA (h): sc-78361

BACKGROUND

The transmembrane 4 superfamily (also known as the tetraspanin family) is a group of cell surface proteins that regulate cell development, activation, growth and motility. Each member contains four hydrophobic domains and participates in the mediation of signal transduction. TM4SF1 (transmembrane 4 L six family member 1), also known as membrane component surface marker 1 (M3S1) or tumor-associated antigen L6 (TAAL6), is a 202 amino acid multi-pass membrane protein belonging to the L6 tetraspanin family. TM4SF1 is found in tumor cells and high molecular weight complexes, with strong expression in breast, colon, lung and ovarian carcinomas. TM4SF1 may be a natural ligand of the PDZ-containing protein syntenin-1 and has been studied as a therapeutic target for monoclonal antibodies. The gene encoding TM4SF1 maps to human chromosome 3q25.1.

REFERENCES

1. Marken, J.S., et al. 1992. Cloning and expression of the tumor-associated antigen L6. Proc. Natl. Acad. Sci. USA 89: 3503-3507.
2. Virtaneva, K.I., et al. 1994. Chromosomal localization of three human genes coding for A15, L6, and S5.7 (TAPA1): all members of the transmembrane 4 superfamily of proteins. Immunogenetics 39: 329-334.
3. Marken, J.S., et al. 1994. Membrane topology of the L6 antigen and identification of the protein epitope recognized by the L6 monoclonal antibody. J. Biol. Chem. 269: 7397-7401.
4. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 191155. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Borrell-Pagès, M., et al. 2000. The carboxy-terminal cysteine of the tetraspanin L6 antigen is required for its interaction with SITAC, a novel PDZ protein. Mol. Biol. Cell 11: 4217-4225.
6. Kaneko, R., et al. 2001. Amount of expression of the tumor-associated antigen L6 gene and transmembrane 4 superfamily member 5 gene in gastric cancers and gastric mucosa. Am. J. Gastroenterol. 96: 3457-3458.
7. Kao, Y.R., et al. 2003. Tumor-associated antigen L6 and the invasion of human lung cancer cells. Clin. Cancer Res. 9: 2807-2816.

CHROMOSOMAL LOCATION

Genetic locus: TM4SF1 (human) mapping to 3q25.1.

PRODUCT

TM4SF1 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 TM4SF1 shRNA Plasmid (h): sc-78361-SH and TM4SF1 shRNA (h) Lentiviral Particles: sc-78361-V as alternate gene silencing products.

For independent verification of TM4SF1 (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-78361A, sc-78361B and sc-78361C.

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

TM4SF1 siRNA (h) is recommended for the inhibition of TM4SF1 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 TM4SF1 gene expression knockdown using RT-PCR Primer: TM4SF1 (h)-PR: sc-78361-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.

PROTOCOLS

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