SANTA CRUZ BIOTECHNOLOGY, INC.

TM4SF5 siRNA (h): sc-94048

BACKGROUND

TM4SF5 (transmembrane 4 L6 family member 5) is a 197 amino acid multi-pass membrane protein that belongs to the transmembrane 4 superfamily (also known as the tetraspanin family) of cell surface proteins that regulate cell development, activation, growth and motility. Expressed in normal intestinal tissue and overexpressed in tumor cells (including hepatocarcinoma, gastric and colon cancer cells), TM4SF5 is a glycoprotein that is thought to play a role in cellular proliferation and growth factor signaling. When upregulated, TM4SF5 can cause erratic and uncontrolled cell growth of human cancer cells, indicating a crucial role for TM4SF5 in tumor progression and metastasis. The gene encoding TM4SF5 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes.

REFERENCES

1. Müller-Pillasch, F., et al. 1998. Identification of a new tumour-associated antigen TM4SF5 and its expression in human cancer. Gene 208: 25-30.
2. Wright, M.D., et al. 2000. The L6 membrane proteins—a new four-transmembrane superfamily. Protein Sci. 9: 1594-1600.
3. 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.
4. Berditchevski, F. 2001. Complexes of tetraspanins with integrins: more than meets the eye. J. Cell Sci. 114: 4143-4151.
5. Pascual-Le Tallec, L., et al. 2002. Identification of genes associated with the corticotroph phenotype in bronchial carcinoid tumors. J. Clin. Endocrinol. Metab. 87: 5015-5022.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604657. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: TM4SF5 (human) mapping to 17p13.2.

PRODUCT

TM4SF5 siRNA (h) is a pool of 2 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 TM4SF5 shRNA Plasmid (h): sc-94048-SH and TM4SF5 shRNA (h) Lentiviral Particles: sc-94048-V as alternate gene silencing products.

For independent verification of TM4SF5 (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-94048A and sc-94048B.

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

TM4SF5 siRNA (h) is recommended for the inhibition of TM4SF5 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 TM4SF5 gene expression knockdown using RT-PCR Primer: TM4SF5 (h)-PR: sc-94048-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.