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TM4SF4 siRNA (m): sc-154303

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. TM4SF4 (transmembrane 4 L six family member 4), also known as intestine and liver tetraspan membrane protein (ILTMP), is a 202 amino acid multi-pass membrane protein that belongs to the L6 tetraspanin family. Expressed in jejunum and liver, TM4SF4 regulates density-dependent cell proliferation as well as the adhesive and proliferative state of intestinal epithelial cells. TM4SF4 contains four membrane spanning domains and two sites that undergo post translational N-linked glycosylation, which is necessary for TM4SF4 to produce its growth inhibitory effect.

REFERENCES

1. Wice, B.M., et al. 1995. A tetraspan membrane glycoprotein produced in the human intestinal epithelium and liver that can regulate cell density-dependent proliferation. *J. Biol. Chem.* 270: 21907-21918.
2. Ferrer, M., et al. 1998. Pattern of expression of tetraspanin antigen genes in Burkitt lymphoma cell lines. *Clin. Exp. Immunol.* 113: 346-352.
3. Wright, M.D., et al. 2000. The L6 membrane proteins—a new four-transmembrane superfamily. *Protein Sci.* 9: 1594-1600.
4. Liu, Z., et al. 2001. Molecular cloning of a cDNA for rat TM4SF4, a homolog of human il-TMP (TM4SF4), and enhanced expression of the corresponding gene in regenerating rat liver. *Biochim. Biophys. Acta* 1518: 183-189.
5. Berditchevski, F. 2001. Complexes of tetraspanins with integrins: more than meets the eye. *J. Cell Sci.* 114: 4143-4151.
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CHROMOSOMAL LOCATION

Genetic locus: Tm4sf4 (mouse) mapping to 3 D.

PRODUCT

TM4SF4 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TM4SF4 shRNA Plasmid (m): sc-154303-SH and TM4SF4 shRNA (m) Lentiviral Particles: sc-154303-V as alternate gene silencing products.

For independent verification of TM4SF4 (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-154303A, sc-154303B and sc-154303C.

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 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

TM4SF4 siRNA (m) is recommended for the inhibition of TM4SF4 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 TM4SF4 gene expression knockdown using RT-PCR Primer: TM4SF4 (m)-PR: sc-154303-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Anderson, K.R., et al. 2011. The L6 domain tetraspanin Tm4sf4 regulates endocrine pancreas differentiation and directed cell migration. *Development* 138: 3213-3224.

PROTOCOLS

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