



TSPAN1 siRNA (m): sc-154723

BACKGROUND

Tetraspanins are a group of hydrophobic membrane proteins that interact with a wide variety of proteins including intracellular signaling molecules, integrins and membrane receptors. Members of the tetraspanin family are characterized by the presence of four hydrophobic domains and play a role in cell development, activation, growth and motility. TSPAN1 (tetraspanin 1), also known as NET1, TM4C or TM4SF, is a 241 amino acid multi-pass membrane protein that localizes to the lysosome membrane. Overexpressed in many human cancers, TSPAN1 is suggested to play an important role in colon cancer progression and in gastric cancer cell migration and invasion. TSPAN1 may also be an important breast cancer suppressor gene. The gene encoding TSPAN1 is located on human chromosome 1p34.1. Chromosome 1 spans about 260 million base pairs, makes up 8% of the human genome and contains approximately 3,000 genes.

REFERENCES

1. Todd, S.C., et al. 1998. Sequences and expression of six new members of the tetraspanin/TM4SF family. *Biochim. Biophys. Acta* 1399: 101-104.
2. Chen, L., et al. 2008. Clinicopathological significance of overexpression of TSPAN1, Ki67 and CD34 in gastric carcinoma. *Tumori* 94: 531-538.
3. Scholz, C.J., et al. 2009. Tspan-1 is a tetraspanin preferentially expressed by mucinous and endometrioid subtypes of human ovarian carcinomas. *Cancer Lett.* 275: 198-203.
4. Scholz, C.J., et al. 2009. Glycosylation of tetraspanin Tspan-1 at four distinct sites promotes its transition through the endoplasmic reticulum. *Protein Pept. Lett.* 16: 1244-1248.
5. Chen, L., et al. 2009. TSPAN1 protein expression: a significant prognostic indicator for patients with colorectal adenocarcinoma. *World J. Gastroenterol.* 15: 2270-2276.
6. Chen, L., et al. 2010. Clinicopathological significance of expression of Tspan-1, Jab1 and p27 in human hepatocellular carcinoma. *J. Korean Med. Sci.* 25: 1438-1442.
7. Chen, L., et al. 2010. Suppression of TSPAN1 by RNA interference inhibits proliferation and invasion of colon cancer cells *in vitro*. *Tumori* 96: 744-750.

CHROMOSOMAL LOCATION

Genetic locus: Tspan1 (mouse) mapping to 4 D1.

PRODUCT

TSPAN1 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 TSPAN1 shRNA Plasmid (m): sc-154723-SH and TSPAN1 shRNA (m) Lentiviral Particles: sc-154723-V as alternate gene silencing products.

For independent verification of TSPAN1 (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-154723A, sc-154723B and sc-154723C.

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

TSPAN1 siRNA (m) is recommended for the inhibition of TSPAN1 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.

GENE EXPRESSION MONITORING

TSPAN1 (B-9): sc-376551 is recommended as a control antibody for monitoring of TSPAN1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TSPAN1 gene expression knockdown using RT-PCR Primer: TSPAN1 (m)-PR: sc-154723-PR (20 μ l). 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.