

TEM7 siRNA (h): sc-61663

BACKGROUND

Tumor endothelial markers (TEMs) are abundantly expressed in the blood vessels of human solid tumors during angiogenesis and neoangiogenesis. These include TEM1 (endosialin), TEM5 (G protein-coupled receptor 124) and TEM7 (plexin domain containing 1). TEMs are associated with the cell surface membrane at low levels in normal human and mouse tissues. TEM5 is a seven-pass transmembrane receptor, whereas TEM1, TEM7 and TEM8 span the membrane once. TEM5 expression is elevated during tumor angiogenesis and neoangiogenesis. TEM7 is highly expressed in tumor endothelium and neurons. Therefore, TEM5 and TEM7 may be suitable targets for the development of antiangiogenic therapies.

REFERENCES

1. Carson-Walter, E.B., Watkins, D.N., Nanda, A., Vogelstein, B., Kinzler, K.W. and St Croix, B. 2001. Cell surface tumor endothelial markers are conserved in mice and humans. *Cancer Res.* 61: 6649-6655.
2. Nanda, A., Buckhaults, P., Seaman, S., Agrawal, N., Boutin, P., Shankara, S., Nacht, M., Teicher, B., Stampfl, J., Singh, S., Vogelstein, B., Kinzler, K.W. and St Croix, B. 2004. Identification of a binding partner for the endothelial cell surface proteins TEM7 and TEM7R. *Cancer Res.* 64: 8507-8511.
3. Yamamoto, Y., Irie, K., Asada, M., Mino, A., Mandai, K. and Takai, Y. 2004. *Dir* gene to seven-pass transmembrane proteins, tumor endothelial marker 5 (TEM5), and a novel TEM5-like protein. *Oncogene* 23: 3889-3897.
4. Wang, X.Q., Sheibani, N. and Watson, J.C. 2005. Modulation of tumor endothelial c cell capillary morphogenesis. *Microvasc. Res.* 70: 189-197.
5. Lee, H.K., Kang, D.S., Seo, I.A., Choi, E.J., Park, H.T. and Park, J.I. 2006. Expression of tumor endothelial marker 7 mRNA and protein in the dorsal root ganglion neurons of the rat. *Neurosci. Lett.* 402: 71-75.
6. Lee, H.K., Seo, I.A., Park, H.K. and Park, H.T. 2006. Identification of the basement membrane protein nidogen as a candidate ligand for tumor endothelial marker 7 *in vitro* and *in vivo*. *FEBS Lett.* 580: 2253-2257.

CHROMOSOMAL LOCATION

Genetic locus: PLXDC1 (human) mapping to 17q12.

PRODUCT

TEM7 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TEM7 shRNA Plasmid (h): sc-61663-SH and TEM7 shRNA (h) Lentiviral Particles: sc-61663-V as alternate gene silencing products.

For independent verification of TEM7 (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-61663A, sc-61663B and sc-61663C.

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 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

TEM7 siRNA (h) is recommended for the inhibition of TEM7 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 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

TEM7 (4H260): sc-73135 is recommended as a control antibody for monitoring of TEM7 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TEM7 gene expression knockdown using RT-PCR Primer: TEM7 (h)-PR: sc-61663-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.