SANTA CRUZ BIOTECHNOLOGY, INC.

TMEM9 siRNA (h): sc-78932

BACKGROUND

TMEM9 (transmembrane protein 9), also known as DERP4 (dermal papilla-derived protein 4), is a 183 amino acid single-pass type I membrane protein that localizes to both the lysosomal membrane and the late endosome membrane. Expressed at high levels in testis, ovary, adrenal gland and prostate and present at lower levels in stomach, spleen, trachea and colon, TMEM9 exists as a dimer that is thought to play a role in intracellular protein transport and may be post-translationally glycosylated. The gene encoding TMEM9 maps to human chromosome 1 and may be involved in hepatocarcinogenesis. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinsons disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Kveine, M., Tenstad, E., Døsen, G., Funderud, S. and Rian, E. 2002. Characterization of the novel human transmembrane protein 9 (TMEM9) that localizes to lysosomes and late endosomes. Biochem. Biophys. Res. Commun. 297: 912-917.
2. Bonifacino, J.S. and Traub, L.M. 2003. Signals for sorting of transmembrane proteins to endosomes and lysosomes. Annu. Rev. Biochem. 72: 395-447.
3. Kurokawa, Y., Matoba, R., Nakamori, S., Takemasa, I., Nagano, H., Dono, K., Umeshita, K., Sakon, M., Monden, M. and Kato, K. 2004. PCR-array gene expression profiling of hepatocellular carcinoma. J. Exp. Clin. Cancer Res. 23: 135-141.
4. Weise, A., Starke, H., Mrasek, K., Claussen, U. and Liehr, T. 2005. New insights into the evolution of chromosome 1. Cytogenet. Genome Res. 108: 217-222.
5. Marzin, Y., Jamet, D., Douet-Guilbert, N., Morel, F., Le Bris, M.J., Morice, P., Abgrall, J.F., Berthou, C. and De Braekeleer, M. 2006. Chromosome 1 abnormalities in multiple myeloma. Anticancer Res. 26: 953-959.
6. Dodeller, F., Gottar, M., Huesken, D., Iourgenko, V. and Cenni, B. 2008. The lysosomal transmembrane protein 9B regulates the activity of inflammatory signaling pathways. J. Biol. Chem. 283: 21487-21494.

CHROMOSOMAL LOCATION

Genetic locus: TMEM9 (human) mapping to 1q32.1.

PRODUCT

TMEM9 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 TMEM9 shRNA Plasmid (h): sc-78932-SH and TMEM9 shRNA (h) Lentiviral Particles: sc-78932-V as alternate gene silencing products.

For independent verification of TMEM9 (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-78932A, sc-78932B and sc-78932C.

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

TMEM9 siRNA (h) is recommended for the inhibition of TMEM9 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 TMEM9 gene expression knockdown using RT-PCR Primer: TMEM9 (h)-PR: sc-78932-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.