

SPECC1 siRNA (h): sc-94063

BACKGROUND

SPECC1 (sperm antigen with calponin homology and coiled-coil domains 1), also known as NSP (nuclear structure protein), CYTSB (cytospin-B), FLJ36955 or HCMOGT-1, is a 1068 amino acid protein that belongs to the cytospin-A family. SPECC1 localizes to the nucleus and is most highly expressed in testis and some cancer cell lines. While it contains a CH (calponin-homology) domain, SPECC1 also contains coiled-coil domains. A chromosomal change involving SPECC1 may be the cause of juvenile myelomonocytic leukemia. In myelomonocytic leukemia, SPECC1 adopts the novel function to fuse to the platelet-derived growth factor receptor PDGFR β , a transmembrane tyrosine kinase receptor. The gene that encodes SPECC1 produces five isoforms and maps to human chromosome 17p11.2. Comprising over 2.5% of the human genome, chromosome 17 consists of about 81 million bases, encodes over 1,200 genes and has the highest gene density in the genome. Chromosome 17 is also enriched in segmental duplications, ranking third in density among the autosomes.

REFERENCES

1. Morerio, C., Aquila, M., Rosanda, C., Rapella, A., Dufour, C., Locatelli, F., Maserati, E., Pasquali, F. and Panarello, C. 2004. HCMOGT-1 is a novel fusion partner to PDGFRB in juvenile myelomonocytic leukemia with t(5;17)(q33;p11.2). *Cancer Res.* 64: 2649-2651.
2. Sang, N., Fath, D.M. and Giordano, A. 2004. A gene highly expressed in tumor cells encodes novel structure proteins. *Oncogene* 23: 9438-9446.
3. Online Mendelian Inheritance in Man, OMIM[™]. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608793. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Zody, M.C., Garber, M., Adams, D.J., Sharpe, T., Harrow, J., Lupski, J.R., Nicholson, C., Searle, S.M., Wilming, L., Young, S.K., Abouelleil, A., Allen, N.R., Bi, W., Bloom, T., Borowsky, M.L., Bugalter, B.E., Butler, J., et al. 2006. DNA sequence of human chromosome 17 and analysis of rearrangement in the human lineage. *Nature* 440: 1045-1049.
5. D'Agostino, L. and Giordano, A. 2008. Possible functional role of NSPs in cancer. *Cell Cycle* 7: 1810-1827.
6. White, M.K. and Khalili, K. 2010. Could NSP5a3a be a target for head and neck cancer? *Oncotarget* 1: 386.
7. D'agostino, L. and Giordano, A. 2010. NSP 5a3a: a potential novel cancer target in head and neck carcinoma. *Oncotarget* 1: 423-435.

CHROMOSOMAL LOCATION

Genetic locus: SPECC1 (human) mapping to 17p11.2.

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.

PRODUCT

SPECC1 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 SPECC1 shRNA Plasmid (h): sc-94063-SH and SPECC1 shRNA (h) Lentiviral Particles: sc-94063-V as alternate gene silencing products.

For independent verification of SPECC1 (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-94063A, sc-94063B and sc-94063C.

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

SPECC1 siRNA (h) is recommended for the inhibition of SPECC1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SPECC1 gene expression knockdown using RT-PCR Primer: SPECC1 (h)-PR: sc-94063-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.