

Swiprosin-1 siRNA (h): sc-78656

BACKGROUND

Swiprosin-1 (SWS1), also known as EFHD2 (EF-hand domain-containing protein D2), is a 240 amino acid protein that regulates spontaneous apoptosis through the regulation of Bcl-x_s abundance. Localized to membrane raft, Swiprosin-1 is expressed in lymphocytes and contains two EF-hand domains. The gene encoding Swiprosin-1 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's 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. Eudy, J.D., Weston, M.D., Yao, S., Hoover, D.M., Rehm, H.L., Ma-Edmonds, M., Yan, D., Ahmad, I., Cheng, J.J., Ayuso, C., Cremers, C., Davenport, S., Moller, C., et al. 1998. Mutation of a gene encoding a protein with extracellular matrix motifs in Usher syndrome type IIa. *Science* 280: 1753-1757.
2. Lau, E.K., Tayebi, N., Ingraham, L.J., Winfield, S.L., Koprivica, V., Stone, D.L., Zimran, A., Ginns, E.I. and Sidransky, E. 1999. Two novel polymorphic sequences in the glucocerebrosidase gene region enhance mutational screening and founder effect studies of patients with Gaucher disease. *Hum. Genet.* 104: 293-300.
3. Vuadens, F., Gasparini, D., Deon, C., Sanchez, J.C., Hochstrasser, D.F., Schneider, P. and Tissot, J.D. 2002. Identification of specific proteins in different lymphocyte populations by proteomic tools. *Proteomics* 2: 105-111.
4. Plasilova, M., Russell, A.M., Wanner, A., Wolf, A., Dobbie, Z., Müller, H.J. and Heinemann, K. 2004. Exclusion of an extracolonic disease modifier locus on chromosome 1p33-36 in a large Swiss familial adenomatous polyposis kindred. *Eur. J. Hum. Genet.* 12: 365-371.
5. Vuadens, F., Rufer, N., Kress, A., Corthesy, P., Schneider, P. and Tissot, J.D. 2004. Identification of swiprosin 1 in human lymphocytes. *Proteomics* 4: 2216-2220.
6. Oliveira, S.A., Li, Y.J., Noureddine, M.A., Zuchner, S., Qin, X., Pericak-Vance, M.A. and Vance, J.M. 2005. Identification of risk and age-at-onset genes on chromosome 1p in Parkinson disease. *Am. J. Hum. Genet.* 77: 252-264.
7. Holliday, E.G., Nyholt, D.R., Tirupati, S., John, S., Ramachandran, P., Ramamurti, M., Ramadoss, A.J., Jeyagurunathan, A., Kottiswaran, S., Smith, H.J., Filippich, C., Nertney, D.A., et al. 2009. Strong evidence for a novel schizophrenia risk locus on chromosome 1p31.1 in homogeneous pedigrees from Tamil Nadu, India. *Am. J. Psychiatry* 166: 206-215.
8. Balcáková, J., Urbánková, H., Scudla, V., Holzerová, M., Bacovský, J., Indrák, K. and Jarosová, M. 2009. Gain of chromosome arm 1q in patients in relapse and progression of multiple myeloma. *Cancer Genet. Cytogenet.* 192: 68-72.

CHROMOSOMAL LOCATION

Genetic locus: EFHD2 (human) mapping to 1p36.21.

PRODUCT

Swiprosin-1 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 Swiprosin-1 shRNA Plasmid (h): sc-78656-SH and Swiprosin-1 shRNA (h) Lentiviral Particles: sc-78656-V as alternate gene silencing products.

For independent verification of Swiprosin-1 (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-78656A, sc-78656B and sc-78656C.

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

Swiprosin-1 siRNA (h) is recommended for the inhibition of Swiprosin-1 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 Swiprosin-1 gene expression knockdown using RT-PCR Primer: Swiprosin-1 (h)-PR: sc-78656-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.