

Tctex1D1 siRNA (h): sc-78681

BACKGROUND

Tctex1, also designated CW-1 or TCTEL1, is expressed in heart, placenta, skeletal muscle, kidney, pancreas, spleen, prostate, testis, ovary, ileum and colon, where it functions as a cytoplasmic Dynein light chain and is found in a complex with Na⁺ CP type Xα. Tctex1D1 (Tctex1 domain containing 1) is a 179 amino acid protein that exists as multiple alternatively spliced isoforms and may function in a similar manner to Tctex1. The gene encoding Tctex1D1 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, 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

- Harrison, A., Olds-Clarke, P. and King, S.M. 1998. Identification of the t complex-encoded cytoplasmic Dynein light chain Tctex1 in inner arm I1 supports the involvement of flagellar dyneins in meiotic drive. *J. Cell Biol.* 140: 1137-1147.
- Harrison, A. and King, S.M. 2000. The molecular anatomy of Dynein. *Essays Biochem.* 35: 75-87.
- Wilson, M.J., Salata, M.W., Susalka, S.J. and Pfister, K.K. 2001. Light chains of mammalian cytoplasmic Dynein: identification and characterization of a family of LC8 light chains. *Cell Motil. Cytoskeleton* 49: 229-240.
- DiBella, L.M., Benashski, S.E., Tedford, H.W., Harrison, A., Patel-King, R.S. and King, S.M. 2001. The Tctex1/Tctex2 class of Dynein light chains. Dimerization, differential expression, and interaction with the LC8 protein family. *J. Biol. Chem.* 276: 14366-14373.
- 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.
- Wu, H., Maciejewski, M.W., Takebe, S. and King, S.M. 2005. Solution structure of the Tctex1 dimer reveals a mechanism for Dynein-cargo interactions. *Structure* 13: 213-223.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: TCTEX1D1 (human) mapping to 1p31.3.

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

Tctex1D1 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 Tctex1D1 shRNA Plasmid (h): sc-78681-SH and Tctex1D1 shRNA (h) Lentiviral Particles: sc-78681-V as alternate gene silencing products.

For independent verification of Tctex1D1 (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-78681A, sc-78681B and sc-78681C.

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

Tctex1D1 siRNA (h) is recommended for the inhibition of Tctex1D1 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 Tctex1D1 gene expression knockdown using RT-PCR Primer: Tctex1D1 (h)-PR: sc-78681-PR (20 μl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.