



Tctex1D2 siRNA (m): sc-154151

BACKGROUND

Dyneins are multi-subunit, high molecular weight ATPases that interact with microtubules to generate force by converting the chemical energy of ATP into the mechanical energy of movement. Cytoplasmic or axonemal dynein heavy, intermediate, light and light-intermediate chains are all components of minus end-directed motors; the complex transports cellular cargos towards the central region of the cell. 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 X α . Tctex1D2 (Tctex1 domain containing 2) is a 144 amino acid protein that belongs to the dynein light chain Tctex-type family and may function in a similar manner to Tctex1.

REFERENCES

1. Harrison, A., et al. 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.
2. Harrison, A. and King, S.M. 2000. The molecular anatomy of dynein. *Essays Biochem.* 35: 75-87.
3. Wilson, M.J., et al. 2001. Light chains of mammalian cytoplasmic dynein: identification and characterization of a family of LC8 light chains. *Cell Motil. Cytoskeleton* 49: 229-240.
4. DiBella, L.M., et al. 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.
5. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. *Cytogenet. Genome Res.* 108: 217-222.
6. DiBella, L.M., et al. 2005. Differential light chain assembly influences outer arm dynein motor function. *Mol. Biol. Cell* 16: 5661-5674.
7. Williams, J.C., et al. 2007. Structural and thermodynamic characterization of a cytoplasmic dynein light chain-intermediate chain complex. *Proc. Natl. Acad. Sci. USA* 104: 10028-10033.
8. Githui, E.K., et al. 2009. Plasmodium possesses dynein light chain classes that are unique and conserved across species. *Infect. Genet. Evol.* 9: 337-343.
9. Palmer, K.J., et al. 2009. Specificity of cytoplasmic dynein subunits in discrete membrane-trafficking steps. *Mol. Biol. Cell* 20: 2885-2899.

CHROMOSOMAL LOCATION

Genetic locus: Tctex1d2 (mouse) mapping to 16 B3.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

Tctex1D2 siRNA (m) is a pool of 2 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 Tctex1D2 shRNA Plasmid (m): sc-154151-SH and Tctex1D2 shRNA (m) Lentiviral Particles: sc-154151-V as alternate gene silencing products.

For independent verification of Tctex1D2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-154151A and sc-154151B.

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

Tctex1D2 siRNA (m) is recommended for the inhibition of Tctex1D2 expression in mouse 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 Tctex1D2 gene expression knockdown using RT-PCR Primer: Tctex1D2 (m)-PR: sc-154151-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Shimoda, Y., et al. 2015. Tctex1D2 is a negative regulator of GLUT4 translocation and glucose uptake. *Endocrinology* 156: 3548-3558.

RESEARCH USE

For research use only, not for use in diagnostic procedures.