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# Tctex2 siRNA (m): sc-43458

## BACKGROUND

Tctex2 (t-complex testis expressed 2) is one of the distorter genes of the mouse t haplotype. This complex is responsible for the transmission ratio distortion phenomenon, in which the chromosomes of heterozygous +/t males are preferentially segregated so that the t haplotype is transmitted to 95% of the offspring. Transmission ratio distortion of t haplotypes involves dysfunction of both flagellar inner and outer dynein arms. Tctex2 might be a light chain of flagellar outer arm dynein and the abortive phosphorylation of Tctex2/outer arm dynein, light chain might be related to the less progressive movement of sperm. Tctex2 maps to the t-complex and encodes a membrane-associated protein found exclusively on the sperm tail.

## REFERENCES

- Huw, L.Y., Goldsborough, A.S., Willison, K. and Artzt, K. 1995. Tctex2: a sperm tail surface protein mapping to the T complex. *Dev. Biol.* 170: 183-194.
- Harrison, A., Olds-Clarke, P. and King, S.M. 1998. Identification of the t complex-encoded cytoplasmic dynein light chain Tctex1 in inner arm 11 supports the involvement of flagellar dyneins in meiotic drive. *J. Cell Biol.* 140: 1137-1147.
- Inaba, K., Kagami, O. and Ogawa, K. 1999. Tctex2-related outer arm dynein light chain is phosphorylated at activation of sperm motility. *Biochem. Biophys. Res. Commun.* 256: 177-183.
- Pazour, G.J., Koutoulis, A., Benashski, S.E., Dickert, B.L., Sheng, H., Patel-King, R.S., King, S.M. and Witman, G.B. 1999. LC2, the chlamydomonas homologue of the T complex-encoded protein Tctex2, is essential for outer dynein arm assembly. *Mol. Biol. Cell* 10: 3507-3520.
- Wang, W. and Chapin, R.E. 2000. Differential gene expression detected by suppression subtractive hybridization in the ethylene glycol monomethyl ether-induced testicular lesion. *Toxicol. Sci.* 56: 165-174.

## CHROMOSOMAL LOCATION

Genetic locus: Tcte3 (mouse) mapping to 17 A2.

## PRODUCT

Tctex2 siRNA (m) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Tctex2 shRNA Plasmid (m): sc-43458-SH and Tctex2 shRNA (m) Lentiviral Particles: sc-43458-V as alternate gene silencing products.

For independent verification of Tctex2 (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-43458A, sc-43458B and sc-43458C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Tctex2 siRNA (m) is recommended for the inhibition of Tctex2 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  $\mu$ M in 66  $\mu$ 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.

## GENE EXPRESSION MONITORING

Tctex2 (H-5): sc-74541 is recommended as a control antibody for monitoring of Tctex2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Tctex2 gene expression knockdown using RT-PCR Primer: Tctex2 (m)-PR: sc-43458-PR (20  $\mu$ l). 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.