



## TSSK 4 siRNA (m): sc-154743

### BACKGROUND

TSSK 4 (testis-specific serine/threonine-protein kinase 4) is a 328 amino acid member of the CAMK Ser/Thr protein kinase family and contains one protein kinase domain. TSSK 4 is believed to be involved in a signaling pathway during male germ cell development and functionality of mature sperm. TSSK 4 is also believed to phosphorylate CREB1 on Ser 133 and stimulate downstream signaling. TSSK 4 may also operate with a functional magnesium cofactor. Possibly through autophosphorylation, TSSK 4 is activated by phosphorylation on Thr 197. TSSK 4 has only been shown expressed in testis.

### REFERENCES

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3. Xu, B., Hao, Z., Jha, K.N., Digilio, L., Urekar, C., Kim, Y.H., Pulido, S., Flickinger, C.J. and Herr, J.C. 2007. Validation of a testis specific serine/threonine kinase [TSSK] family and the substrate of TSSK 1 & 2, TSKS, as contraceptive targets. *Soc. Reprod. Fertil. Suppl.* 63: 87-101.
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5. Su, D., Zhang, W., Yang, Y., Deng, Y., Ma, Y., Song, H. and Zhang, S. 2008. Mutation screening and association study of the TSSK4 gene in Chinese infertile men with impaired spermatogenesis. *J. Androl.* 29: 374-378.
6. Zhang, H., Su, D., Yang, Y., Zhang, W., Liu, Y., Bai, G., Ma, M., Ma, Y. and Zhang, S. 2010. Some single-nucleotide polymorphisms of the TSSK2 gene may be associated with human spermatogenesis impairment. *J. Androl.* 31: 388-392.

### CHROMOSOMAL LOCATION

Genetic locus: Tssk4 (mouse) mapping to 14 C3.

### PRODUCT

TSSK 4 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 TSSK 4 shRNA Plasmid (m): sc-154743-SH and TSSK 4 shRNA (m) Lentiviral Particles: sc-154743-V as alternate gene silencing products.

For independent verification of TSSK 4 (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-154743A, sc-154743B and sc-154743C.

### 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

TSSK 4 siRNA (m) is recommended for the inhibition of TSSK 4 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.

### RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TSSK 4 gene expression knockdown using RT-PCR Primer: TSSK 4 (m)-PR: sc-154743-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.