SANTA CRUZ BIOTECHNOLOGY, INC.

TSSK 4 siRNA (h): sc-92098

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

1. Koshida, K., Stigbrand, T., Hisazumi, H. and Wahren, B. 1989. Hydrophobicity and lectin affinity of alkaline phosphatase isozymes in seminoma and normal testis. Tumour Biol. 10: 173-180.
2. Bielke, W., Blaschke, R.J., Miescher, G.C., Zürcher, G., Andres, A.C. and Ziemiecki, A. 1994. Characterization of a novel murine testis-specific serine/threonine kinase. Gene 139: 235-239.
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 TSSK1 & 2, TSKS, as contraceptive targets. Soc. Reprod. Fertil. Suppl. 63: 87-101.
4. Zeng, M., Deng, W., Wang, X., Qiu, W., Liu, Y., Sun, H., Tao, D., Zhang, S. and Ma, Y. 2008. DAZL binds to the transcripts of several Tssk genes in germ cells. BMB Rep. 41: 300-304.
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 (human) mapping to 14q12.

PRODUCT

TSSK 4 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 TSSK 4 shRNA Plasmid (h): sc-92098-SH and TSSK 4 shRNA (h) Lentiviral Particles: sc-92098-V as alternate gene silencing products.

For independent verification of TSSK 4 (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-92098A, sc-92098B and sc-92098C.

PROTOCOLS

See our web site at 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 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

TSSK 4 siRNA (h) is recommended for the inhibition of TSSK 4 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 TSSK 4 gene expression knockdown using RT-PCR Primer: TSSK 4 (h)-PR: sc-92098-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.