

# TESK2 siRNA (h): sc-76644

## BACKGROUND

TESK2 (testicular protein kinase 2) is a nuclear protein that belongs to the protein kinase superfamily and is expressed in testis and prostate. Functioning as a dual-specificity protein kinase, TESK2 catalyzes the ATP-dependent phosphorylation of substrates and autophosphorylation on tyrosine and serine/threonine residues, thereby mediating intracellular signal transduction pathways. TESK2 requires magnesium as a cofactor and its catalytic activity is thought to play an important role in meiotic events such as spermatogenesis. TESK2 contains one protein kinase domain that is 65% identical to the kinase domain found in TESK1 (testicular protein kinase 1), suggesting a similar role for these proteins in phosphorylation events. Three isoforms of TESK2 are expressed due to alternative splicing.

## REFERENCES

1. Røskov, O., et al. 1999. Identification and characterization of TESK2, a novel member of the LIMK/TESK family of protein kinases, predominantly expressed in testis. *Genomics* 61: 44-54.
2. Zuercher, G., et al. 2000. A novel member of the testis specific serine kinase family, TSSK 3, expressed in the Leydig cells of sexually mature mice. *Mech. Dev.* 93: 175-177.
3. Toshima, J., et al. 2001. Cofilin phosphorylation and actin reorganization activities of testicular protein kinase 2 and its predominant expression in testicular Sertoli cells. *J. Biol. Chem.* 276: 31449-31458.
4. Toshima, J.Y., et al. 2001. Binding of 14-3-3  $\beta$  regulates the kinase activity and subcellular localization of testicular protein kinase 1. *J. Biol. Chem.* 276: 43471-43481.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604746. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Oliveira, S.A., et al. 2005. Identification of risk and age-at-onset genes on chromosome 1p in Parkinson disease. *Am. J. Hum. Genet.* 77: 252-264.

## CHROMOSOMAL LOCATION

Genetic locus: TESK2 (human) mapping to 1p34.1.

## PRODUCT

TESK2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TESK2 shRNA Plasmid (h): sc-76644-SH and TESK2 shRNA (h) Lentiviral Particles: sc-76644-V as alternate gene silencing products.

For independent verification of TESK2 (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-76644A, sc-76644B and sc-76644C.

## 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

TESK2 siRNA (h) is recommended for the inhibition of TESK2 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  $\mu$ 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

TESK2 (31-F): sc-100373 is recommended as a control antibody for monitoring of TESK2 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 TESK2 gene expression knockdown using RT-PCR Primer: TESK2 (h)-PR: sc-76644-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.