SANTA CRUZ BIOTECHNOLOGY, INC.

TESK1 siRNA (h): sc-76642

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The Power to Question

BACKGROUND

TESK1 (testis-specific kinase 1) is a 626 amino acid serine/threonine kinase that belongs to the protein kinase superfamily and contains a unique structure composed of a N-terminal protein kinase domain and a C-terminal proline-rich domain. The protein kinase domain of TESK1 is most closely related to those of the LIM motif-containing protein kinases (LIMKs). Functioning as a dual-specificity protein kinase, TESK1 catalyzes the ATP-dependent phosphorylation of exogenous substrates and autophosphorylation on tyrosine and serine/threonine residues, thereby mediating intracellular signal transduction pathways. Predominantly expressed in testicular germ cells, TESK1 may play an important role in spermatogenesis.

REFERENCES

1. Toshima, J., et al. 1995. Identification and characterization of a novel protein kinase, TESK1, specifically expressed in testicular germ cells. J. Biol. Chem. 270: 31331-31337.
2. Toshima, J., et al. 1998. Stage-specific expression of testis-specific protein kinase 1 (TESK1) in rat spermatogenic cells. Biochem. Biophys. Res. Commun. 249: 107-112.
3. Toshima, J., et al. 1998. Structural organization and chromosomal localization of the mouse tesk1 (testis-specific protein kinase 1) gene. Gene 206: 237-245.
4. Toshima, J., et al. 1999. Dual specificity protein kinase activity of testis-specific protein kinase 1 and its regulation by autophosphorylation of serine-215 within the activation loop. J. Biol. Chem. 274: 12171-12176.
5. Toshima, J., et al. 2001. Cell-type-specific expression of a TESK1 promoter-linked lacZ gene in transgenic mice. Biochem. Biophys. Res. Commun. 286: 566-573.
6. Toshima, J.Y., et al. 2001. Binding of 14-3-3β regulates the kinase activity and subcellular localization of testicular protein kinase 1. J. Biol. Chem. 276: 43471-43481.

CHROMOSOMAL LOCATION

Genetic locus: TESK1 (human) mapping to 9p13.3.

PRODUCT

TESK1 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 TESK1 shRNA Plasmid (h): sc-76642-SH and TESK1 shRNA (h) Lentiviral Particles: sc-76642-V as alternate gene silencing products.

For independent verification of TESK1 (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-76642A, sc-76642B and sc-76642C.

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

TESK1 siRNA (h) is recommended for the inhibition of TESK1 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 TESK1 gene expression knockdown using RT-PCR Primer: TESK1 (h)-PR: sc-76642-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.