SANTA CRUZ BIOTECHNOLOGY, INC.

TEX14 siRNA (h): sc-94144

BACKGROUND

TEX14 (testis expressed 14), also known as SGK307 (sugen kinase 307) or Protein kinase-like protein SgK307, is a 1,497 amino acid protein that belongs to the protein kinase superfamily and is expressed in testis. The gene encoding TEX14 is located on chromosome 17 and is required for spermatogenesis and normal structure of the intercellular bridge that connects spermatocytes and spermatogonia. TEX14 co-localizes with the centralspindlin complex, MKLP-1 (mitotic kinesin-like protein 1) and male germ cell Rac GTPase (Rac GTPase-activating protein) and converts these midbody matrix proteins into stable intercellular bridge components. TEX14 contains three ANK repeats and one protein kinase domain. Three isoforms exist due to alternative splicing events.

REFERENCES

1. Wang, P.J., McCarrey, J.R., Yang, F. and Page, D.C. 2001. An abundance of X-linked genes expressed in spermatogonia. Nat. Genet. 27: 422-426.
2. Wu, M.H., Rajkovic, A., Burns, K.H., Yan, W., Lin, Y.N. and Matzuk, M.M. 2003. Sequence and expression of testis-expressed gene 14 (TEX14): a gene encoding a protein kinase preferentially expressed during spermatogenesis. Gene Expr. Patterns 3: 231-236.
3. Greenbaum, M.P., Iwamori, N., Agno, J.E. and Matzuk, M.M. 2008. Mouse TEX14 is required for embryonic germ cell intercellular bridges but not female fertility. Biol. Reprod. 80: 449-457.
4. Silva, C., Wood, J.R., Salvador, L., Zhang, Z., Kostetskii, I., Williams, C.J. and Strauss, J.F. 2009. Expression profile of male germ cell-associated genes in mouse embryonic stem cell cultures treated with all-*trans* retinoic acid and testosterone. Mol. Reprod. Dev. 76: 11-21.

CHROMOSOMAL LOCATION

Genetic locus: TEX14 (human) mapping to 17q22.

PRODUCT

TEX14 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 TEX14 shRNA Plasmid (h): sc-94144-SH and TEX14 shRNA (h) Lentiviral Particles: sc-94144-V as alternate gene silencing products.

For independent verification of TEX14 (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-94144A, sc-94144B and sc-94144C.

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

TEX14 siRNA (h) is recommended for the inhibition of TEX14 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.

GENE EXPRESSION MONITORING

TEX14 (4E4): sc-517070 is recommended as a control antibody for monitoring of TEX14 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 TEX14 gene expression knockdown using RT-PCR Primer: TEX14 (h)-PR: sc-94144-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.