SANTA CRUZ BIOTECHNOLOGY, INC.

Odf3l2 siRNA (h): sc-97399

BACKGROUND

The major cytoskeletal structures in the mammalian sperm tail are the outer dense fibers (Odfs) and the fibrous sheath. The Odfs are located on the outside of the axoneme and help maintain the passive elastic structures and elastic recoil of the sperm tail. Human Odfs consist of approximately 10 major and at least 15 minor proteins. The major proteins, including Odf1, Odf2 and Odf3, compose a family of proteins that are preferentially expressed during mammalian spermiogenesis. Odf3 is expressed during the latter part of spermatogenesis in flagella of elongated spermatids and mature sperm. A member of the Odf3 family, Odf3l2 (outer dense fiber protein 3-like protein 2), also known as C19orf19, is a 289 amino acid protein containing 3 DUF1309 repeats. The gene encoding Odf3l2 maps to human chromosome 19p13.3 and mouse chromosome 10 C1. Two isoforms of Odf3l2 are produced by alternative splicing events.

REFERENCES

1. Gastmann, O., Burfeind, P., Günther, E., Hameister, H., Szpirer, C. and Hoyer-Fender, S. 1993. Sequence, expression, and chromosomal assignment of a human sperm outer dense fiber gene. Mol. Reprod. Dev. 36: 407-418.
2. Shao, X. and van der Hoorn, F.A. 1996. Self-interaction of the major 27-kilodalton outer dense fiber protein is in part mediated by a leucine zipper domain in the rat. Biol. Reprod. 55: 1343-1350.
3. Shao, X., Murthy, S., Demetrick, D.J. and van der Hoorn, F.A. 1998. Human outer dense fiber gene, ODF2, localizes to chromosome 9q34. Cytogenet. Cell Genet. 83: 221-223.
4. Schalles, U., Shao, X., van der Hoorn, F.A. and Oko, R. 1998. Developmental expression of the 84-kDa ODF sperm protein: localization to both the cortex and medulla of outer dense fibers and to the connecting piece. Dev. Biol. 199: 250-260.
5. Petersen, C., Füzesi, L. and Hoyer-Fender, S. 1999. Outer dense fibre proteins from human sperm tail: molecular cloning and expression analyses of two cDNA transcripts encoding proteins of approximately 70 kDa. Mol. Hum. Reprod. 5: 627-635.
6. Shao, X., Xue, J. and van der Hoorn, F.A. 2001. Testicular protein Spag5 has similarity to mitotic spindle protein Deepest and binds outer dense fiber protein Odf1. Mol. Reprod. Dev. 59: 410-416.

CHROMOSOMAL LOCATION

Genetic locus: ODF3L2 (human) mapping to 19p13.3.

PRODUCT

Odf3l2 siRNA (h) is a target-specific 19-25 nt siRNA 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 Odf3l2 shRNA Plasmid (h): sc-97399-SH and Odf3l2 shRNA (h) Lentiviral Particles: sc-97399-V as alternate gene silencing products.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

Odf3l2 siRNA (h) is recommended for the inhibition of Odf3l2 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

Odf3l2 (H-4): sc-398309 is recommended as a control antibody for monitoring of Odf3l2 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 Odf3l2 gene expression knockdown using RT-PCR Primer: Odf3l2 (h)-PR: sc-97399-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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