SANTA CRUZ BIOTECHNOLOGY, INC.

SPERT siRNA (h): sc-76558

BACKGROUND

A variety of morphological and molecular changes are required for spermatozoa formation. These steps are temporally guided by the transcription and translation of several testis-specific genes. SPERT (spermatid associated), also known as CBY2 (chibby homolog 2), spermatid flower-like structure protein or NURIT, is a 448 amino acid novel leucine-zipper protein belonging to the chibby family of proteins. Expressed uniquely in the spermatid flower-like structure, SPERT interacts with Nek1, a member of the NIMA-family kinase family that is associated centrosomal stability and ciliogenesis. Containing a leucine-zipper motif and two coiled-coil regions, SPERT is transcribed through the elongation stage of the spermatids. SPERT is absent from mature spermatozoa and is thought to be involved in transporting proteins that are to be discarded via the residual bodies.

REFERENCES

1. Alber, T. 1992. Structure of the leucine zipper. Curr. Opin. Genet. Dev. 2: 205-210.
2. Baxevanis, A.D. and Vinson, C.R. 1993. Interactions of coiled coils in transcription factors: where is the specificity? Curr. Opin. Genet. Dev. 3: 278-285.
3. Feige, E., Chen, A. and Motro, B. 2002. Nurit, a novel leucine-zipper protein, expressed uniquely in the spermatid flower-like structure. Mech. Dev. 117: 369-377.
4. White, M.C. and Quarmby, L.M. 2008. The NIMA-family kinase, Nek1 affects the stability of centrosomes and ciliogenesis. BMC Cell Biol. 9: 29.
5. Hilton, L.K., White and M.C. and Quarmby, L.M. 2009. The NIMA-related kinase NEK1 cycles through the nucleus. Biochem. Biophys. Res. Commun. 389: 52-56.

CHROMOSOMAL LOCATION

Genetic locus: SPERT (human) mapping to 13q14.13.

PRODUCT

SPERT 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 SPERT shRNA Plasmid (h): sc-76558-SH and SPERT shRNA (h) Lentiviral Particles: sc-76558-V as alternate gene silencing products.

For independent verification of SPERT (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-76558A, sc-76558B and sc-76558C.

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.

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

SPERT siRNA (h) is recommended for the inhibition of SPERT 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 SPERT gene expression knockdown using RT-PCR Primer: SPERT (h)-PR: sc-76558-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.