SANTA CRUZ BIOTECHNOLOGY, INC.

SCP-1 siRNA (h): sc-37642

BACKGROUND

Synaptonemal complexes are meiosis-specific nuclear organelles that are involved in chromosome rearrangements, such as chromosome pairing and recombination during meiotic prophase. The synaptonemal complex protein 1 (SCP-1), also known as SYCP1(A), SYN1(I) and HOM-TES-14, is a protein product of human chromosome 1p13.2. SCP-1 is a major component of the transverse filaments of synaptonemal complexes and functions by pairing homologous chromosomes during meiotic prophase in spermatocytes, which is an essential step for the generation of haploid cells in meiosis I. SCP-1 is expressed in the testis, adult brain, some malignant gliomas, breast, renal cell and ovarian cancer. SCP-1 is known to be selectively expressed during the meiotic prophase of spermatocytes and shows cell cycle phase-independent nuclear expression in cancer cells.

REFERENCES

1. Meuwissen, R., et al. 1992. A coiled-coil related protein specific for synasped regions of meitic prophase chromosomes. EMBO J. 11: 5091-5100.
2. Kerr, S., et al. 1996. Ott, a mouse X-linked multigene family expressed specifically during meiosis. Hum. Mol. Genet. 5: 1139-1148.
3. Tureci, O., et al. 1998. Identification of a meiosis-specific protein as a member of the class of cancer/testis antigens. Proc. Natl. Acad. Sci. USA 95: 5211-5216.
4. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602162. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Pfeifer, C., et al. 2001. Centromere and telomere redistribution precedes homologue pairing and terminal synapsis initiation during prophase I of cattle spermatogenesis. Cytogenet. Cell Genet. 93: 304-314.
6. Stoop, H., et al. 2001. Reactivity of germ cell maturation stage-specific markers in spermatocytic seminoma: diagnostic and etiological implications. Lab. Invest. 81: 919-928.
7. LocusLink Report (LocusID: 6847). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: SYCP1 (human) mapping to 1p13.2.

PRODUCT

SCP-1 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 SCP-1 shRNA Plasmid (h): sc-37642-SH and SCP-1 shRNA (h) Lentiviral Particles: sc-37642-V as alternate gene silencing products.

For independent verification of SCP-1 (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-37642A, sc-37642B and sc-37642C.

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

SCP-1 siRNA (h) is recommended for the inhibition of SCP-1 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 SCP-1 gene expression knockdown using RT-PCR Primer: SCP-1 (h)-PR: sc-37642-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Jeon, E.S., et al. 2014. Cobalt chloride induces neuronal differentiation of human mesenchymal stem cells through upregulation of microRNA-124a. Biochem. Biophys. Res. Commun. 444: 581-587.

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.