SANTA CRUZ BIOTECHNOLOGY, INC.

SCP-2 siRNA (h): sc-37644

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 2 (SCP-2), also known as SYCP2, is a protein product of human chromosome 20q13.33. SCP-2 and SCP-3 are major components of the lateral elements of synaptonemal complexes. SCP-2 is expressed specifically in testicular meiotic prophase cells. SCP-2 helps shape the *in vivo* structure of the axial element during meiotic prophase. SCP-2 and SCP-3 first appear in leptotene-stage spermatocytes and disappear in late meiotic cells.

REFERENCES

1. Offenberg, H., et al. 1998. SCP-2: a major protein component of the axial elements of synaptonemal complexes of the rat. Nucleic Acids Res. 26: 2572-2579.
2. Schalk, J., et al. 1998. Localization of SCP-2 and SCP-3 protein molecules within synaptonemal complexes of the rat. Chromosoma 107: 540-548.
3. 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/
4. Peltari, J., et al. 2001. A meiotic chromosomal core consisting of cohesin complex proteins recruits DNA recombination proteins and promotes synapsis in the absence of an axial element in mammalian meiotic cells. Mol. Cell. Biol. 21: 5667-5677.
5. Codina-Pascual M., et al. 2004. Characterization of all human male synaptonemal complexes by subtelomere multiplex-FISH. Cytogenet. Genome Res. 107: 18-21.
6. LocusLink Report (LocusID: 10388). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: SYCP2 (human) mapping to 20q13.33.

PRODUCT

SCP-2 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-2 shRNA Plasmid (h): sc-37644-SH and SCP-2 shRNA (h) Lentiviral Particles: sc-37644-V as alternate gene silencing products.

For independent verification of SCP-2 (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-37644A, sc-37644B and sc-37644C.

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

SCP-2 siRNA (h) is recommended for the inhibition of SCP-2 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-2 gene expression knockdown using RT-PCR Primer: SCP-2 (h)-PR: sc-37644-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.