

# SYCE2 siRNA (h): sc-106961

## BACKGROUND

SYCE2 (synaptonemal complex central element protein 2), also known as CESC1 (central element synaptonemal complex protein 1), is a 218 amino acid protein and component of the transverse central element of synaptonemal complexes (SC). The SC is a tripartite structure that links homologous chromosomes during prophase I. SYCE2 is responsible for synaptonemal complex recombination, assembly and stabilization. Localized to nucleus, SYCE2 associates with chromatin and has been found to colocalize with SYCE1 in the central elements. SYCE2 is highly expressed in testis but is also found at lower levels in a variety of other tissues. The gene encoding SYCE2 maps to human chromosome 19p13.2 and mouse chromosome 8 C3.

## REFERENCES

1. Penkina, M.V., et al. 2002. Synaptonemal complex proteins: specific proteins of meiotic chromosomes. *Mol. Biol.* 36: 397-407.
2. Bogdanov, Y.F. 2003. Variation and evolution of meiosis. *Genetika* 39: 453-473.
3. Costa, Y., et al. 2005. Two novel proteins recruited by synaptonemal complex protein 1 (SYCP1) are at the centre of meiosis. *J. Cell Sci.* 118: 2755-2762.
4. Costa, Y. and Cooke, H.J. 2007. Dissecting the mammalian synaptonemal complex using targeted mutations. *Chromosome Res.* 15: 579-589.
5. Bolcun-Filas, E., et al. 2007. SYCE2 is required for synaptonemal complex assembly, double strand break repair, and homologous recombination. *J. Cell Biol.* 176: 741-747.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611487. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Yang, F. and Wang, P.J. 2009. The Mammalian synaptonemal complex: a scaffold and beyond. *Genome Dyn.* 5: 69-80.

## CHROMOSOMAL LOCATION

Genetic locus: SYCE2 (human) mapping to 19p13.2.

## PRODUCT

SYCE2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SYCE2 shRNA Plasmid (h): sc-106961-SH and SYCE2 shRNA (h) Lentiviral Particles: sc-106961-V as alternate gene silencing products.

For independent verification of SYCE2 (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-106961A, sc-106961B and sc-106961C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

SYCE2 siRNA (h) is recommended for the inhibition of SYCE2 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  $\mu$ M in 66  $\mu$ l. 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 SYCE2 gene expression knockdown using RT-PCR Primer: SYCE2 (h)-PR: sc-106961-PR (20  $\mu$ l). 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.