SANTA CRUZ BIOTECHNOLOGY, INC.

Ska1 siRNA (m): sc-108858

BACKGROUND

Ska1 (spindle and kinetochore-associated protein 1) is a 255 amino acid protein that belongs to the SKA1 family. Ska1 is a component of the SKA1 complex, composed of Ska1, Ska2 and Ska3, which is a microtubule-binding subcomplex of the outer kinetochore that is essential for proper chromosome segregation. The Ska1 protein is required for timely anaphase onset during mitosis, when chromosomes undergo bipolar attachment on spindle microtubules leading to silencing of the spindle checkpoint. The SKA1 complex is a direct component of the kinetochore-microtubule interface and directly associates with microtubules as oligomeric assemblies. The complex facilitates the processive movement of microspheres along a microtubule in a depolymerization-coupled manner. In the complex, it mediates the interaction with microtubules. Existing as two alternatively spliced isoforms, the Ska1 gene is conserved in chimpanzee, canine, mouse, rat and zebrafish, and maps to human chromosome 18q21.1.

REFERENCES

1. Sauer, G., et al. 2005. Proteome analysis of the human mitotic spindle. Mol. Cell. Proteomics 4: 35-43.
2. Nusbaum, C., et al. 2005. DNA sequence and analysis of human chromosome 18. Nature 437: 551-555.
3. Hanisch, A., et al. 2006. Timely anaphase onset requires a novel spindle and kinetochore complex comprising Ska1 and Ska2. EMBO J. 25: 5504-5515.
4. Rines, D.R., et al. 2008. Whole genome functional analysis identifies novel components required for mitotic spindle integrity in human cells. Genome Biol. 9: R44.
5. Welburn, J.P., et al. 2009. The human kinetochore Ska1 complex facilitates microtubule depolymerization-coupled motility. Dev. Cell 16: 374-385.
6. Theis, M., et al. 2009. Comparative profiling identifies C13orf3 as a component of the Ska complex required for mammalian cell division. EMBO J. 28: 1453-1465.

CHROMOSOMAL LOCATION

Genetic locus: Ska1 (mouse) mapping to 18 E2.

PRODUCT

Ska1 siRNA (m) 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 Ska1 shRNA Plasmid (m): sc-108858-SH and Ska1 shRNA (m) Lentiviral Particles: sc-108858-V as alternate gene silencing products.

For independent verification of Ska1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-108858A, sc-108858B and sc-108858C.

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

Ska1 siRNA (m) is recommended for the inhibition of Ska1 expression in mouse 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 Ska1 gene expression knockdown using RT-PCR Primer: Ska1 (m)-PR: sc-108858-PR (20 µl). 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.