SANTA CRUZ BIOTECHNOLOGY, INC.

SPIN1 siRNA (h): sc-92696

BACKGROUND

SPIN1 (spindlin 1), also known as SPIN or ovarian cancer-related protein (OCR), is a 262 amino acid nuclear protein suggested to play a role in regulation of the cell-cycle during the transition from gamete to embryo. A member of the SPIN/STSY family, SPIN1 localizes to interphase nucleus and mitotic chromosomes, and is modified by phosphorylation in a cell-cycle-dependent fashion. A meiotic spindle-binding protein, SPIN1 overexpression has been shown to cause defects in mitotic spindles, thereby resulting in chromosome instability and potential tumorigenesis. SPIN1 is highly expressed in ovarian cancer cells and is encoded by a gene located on human chromosome 9q22.1, which houses over 900 genes and comprises nearly 4% of the human genome.

REFERENCES

1. Casarin, M., et al. 1991. Changes inmixed venous oxygen saturation in ventilation with PEEP and continuous negative external pressure. Minerva Anestesiol. 57: 165-169.
2. Oh, B., et al. 1997. Spindlin, a major maternal transcript expressed in the mouse during the transition from oocyte to embryo. Development 124: 493-503.
3. Gao, Y., et al. 2005. Spindlin1, a novel nuclear protein with a role in the transformation of NIH3T3 cells. Biochem. Biophys. Res. Commun. 335: 343-350.
4. Jiang, F., et al. 2006. Expression, purification, crystallization and preliminary X-ray analysis of human spindlin1, an ovarian cancer-related protein. Protein Pept. Lett. 13: 203-205.
5. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609936. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Yuan, H., et al. 2008. Overexpression of SPINDLIN1 induces cellular senescence, multinucleation and apoptosis. Gene 410: 67-74.
7. Zhang, P., et al. 2008. Overexpression of spindlin1 induces metaphase arrest and chromosomal instability. J. Cell. Physiol. 217: 400-408.

CHROMOSOMAL LOCATION

Genetic locus: SPIN1 (human) mapping to 9q22.1.

PRODUCT

SPIN1 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 SPIN1 shRNA Plasmid (h): sc-92696-SH and SPIN1 shRNA (h) Lentiviral Particles: sc-92696-V as alternate gene silencing products.

For independent verification of SPIN1 (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-92696A, sc-92696B and sc-92696C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

SPIN1 siRNA (h) is recommended for the inhibition of SPIN1 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 SPIN1 gene expression knockdown using RT-PCR Primer: SPIN1 (h)-PR: sc-92696-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. Drago-Ferrante, R., et al. 2017. Suppressive role exerted by microRNA-29b-1-5p in triple negative breast cancer through SPIN1 regulation. Oncotarget 8: 28939-28958.
2. Janecki, D.M., et al. 2018. SPIN1 is a proto-oncogene and SPIN3 is a tumor suppressor in human seminoma. Oncotarget 9: 32466-32477.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.