SANTA CRUZ BIOTECHNOLOGY, INC.

SART-1 siRNA (m): sc-62979

BACKGROUND

SART-1 (squamous cell carcinoma antigen recognized by T cells), also known as Ara1, HOMS1 or Snu66, is a ubiquitously expressed protein that is involved in mRNA splicing and cell proliferation. The gene encoding SART-1 is post-transcriptionally modified to produce two proteins: SART-1(800), which is the native transcript and is localized to the nucleus of proliferating cells, and SART-1(259), which is expressed in the cytosol of epithelial cancers. While both proteins are involved in regulating cell proliferation, SART-1(259) is also an essential component in the spliceosome C assembly pathway playing a role in pre-mRNA splicing. SART-1(259) possesses a tumor-rejection antigen that can induce restricted cytotoxic T lymphocytes in cancer patients, suggesting a possible role in immunotherapy. Additionally, the polymorphic variation within the SART-1 gene may be a cause of atopy, an allergic hypersensitivity characterized by eczema, asthma and allergic conjunctivitis.

REFERENCES

1. Matsumoto, H., et al. 1998. Expression of the SART-1 antigens in uterine cancers. Jpn. J. Cancer Res. 89: 1292-1295.
2. Kawamoto, M., et al. 1999. Expression of the SART-1 tumor rejection antigen in breast cancer. Int. J. Cancer 80: 64-67.
3. Bolland, D.J. and Hewitt, J.E. 2001. Intron loss in the SART1 genes of *Fugu rubripes* and *Tetraodon nigroviridis.* Gene 271: 43-49.
4. Wheatley, A.P., et al. 2002. Identification of the autoantigen SART-1 as a candidate gene for the development of atopy. Hum. Mol. Genet. 11: 2143-2146.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605941. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Yoshida, S. and Tanaka, R. 2004. Generation of a human leukocyte antigen-A24-restricted antitumor cell with the use of SART-1 peptide and dendritic cells in patients with malignant brain tumors. J. Lab. Clin. Med. 144: 201-207.
7. Hosokawa, M., et al. 2005. Cell cycle arrest and apoptosis induced by SART-1 gene transduction. Anticancer Res. 25: 1983-1990.

CHROMOSOMAL LOCATION

Genetic locus: Sart1 (mouse) mapping to 19 A.

PRODUCT

SART-1 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 SART-1 shRNA Plasmid (m): sc-62979-SH and SART-1 shRNA (m) Lentiviral Particles: sc-62979-V as alternate gene silencing products.

For independent verification of SART-1 (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-62979A, sc-62979B and sc-62979C.

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

SART-1 siRNA (m) is recommended for the inhibition of SART-1 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.

GENE EXPRESSION MONITORING

SART-1 (A-5): sc-376460 is recommended as a control antibody for monitoring of SART-1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SART-1 gene expression knockdown using RT-PCR Primer: SART-1 (m)-PR: sc-62979-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.

PROTOCOLS

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