SANTA CRUZ BIOTECHNOLOGY, INC.

SDAD1 siRNA (h): sc-89086

BACKGROUND

SDAD1 (SDA1 domain-containing protein 1) is a 687 amino acid protein that belongs to the SDA1 family. The SDAD1 protein is required for 60S pre-ribosomal subunits export to the cytoplasm. Highly expressed in testis, kidney, spleen, brain and fetal tissues, SDAD1 is also expressed at lower levels in heart, lung, liver, small intestine, ovary, uterus, mammary gland and placenta. Variations in SDAD1 may be a cause of susceptibility to seasonal allergic rhinitis (SAR). SAR is a common allergic disorder characterized by episodes of sneezing, rhinorrhea, and swelling of the nasal mucosa. DAZL and Pumilio 2 bind the 3'-UTR mRNA of SDAD1, suggesting that these proteins may regulate translation of SDAD1. Existing as two alternatively spliced isoforms, the SDAD1 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish, fruit fly, mosquito, *C. elegans, S. pombe, S. cerevisiae, K. lactis, E. gossypii, M. grisea, N. crassa, A. thaliana* and rice, and maps to human chromosome 4q21.1.

REFERENCES

1. Yu, Y., et al. 2001. Gene expression profiling in human fetal liver and identification of tissue- and developmental-stage-specific genes through compiled expression profiles and efficient cloning of full-length cDNAs. Genome Res. 11: 1392-1403.
2. Andersen, J.S., et al. 2002. Directed proteomic analysis of the human nucleolus. Curr. Biol. 12: 1-11.
3. Babbio, F., et al. 2004. Expression and localization studies of hSDA, the human ortholog of the yeast SDA1 gene. Cell Cycle 3: 486-490.
4. Fox, M., et al. 2005. Identification and characterization of RNA sequences to which human PUMILIO-2 (PUM2) and deleted in azoospermia-like (DAZL) bind. Genomics 85: 92-105.
5. Reynolds, N., et al. 2005. Dazl binds *in vivo* to specific transcripts and can regulate the pre-meiotic translation of Mvh in germ cells. Hum. Mol. Genet. 14: 3899-3909.
6. Zhang, J., et al. 2005. Association of a haplotype block spanning SDAD1 gene and CXC chemokine genes with allergic rhinitis. J. Allergy Clin. Immunol. 115: 548-554.

CHROMOSOMAL LOCATION

Genetic locus: SDAD1 (human) mapping to 4q21.1.

PRODUCT

SDAD1 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 SDAD1 shRNA Plasmid (h): sc-89086-SH and SDAD1 shRNA (h) Lentiviral Particles: sc-89086-V as alternate gene silencing products.

For independent verification of SDAD1 (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-89086A, sc-89086B and sc-89086C.

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

SDAD1 siRNA (h) is recommended for the inhibition of SDAD1 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.

GENE EXPRESSION MONITORING

SDAD1 (C-12): sc-515320 is recommended as a control antibody for monitoring of SDAD1 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 SDAD1 gene expression knockdown using RT-PCR Primer: SDAD1 (h)-PR: sc-89086-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.