SANTA CRUZ BIOTECHNOLOGY, INC.

Slfn2 siRNA (m): sc-40925

BACKGROUND

Schlafen family members, including Slfn1, Slfn2, Slfn3 and Slfn4, are preferentially expressed in lymphoid tissues and are differentially regulated during thymocyte maturation. Schlafen proteins function as suppressors of cell growth and are thought to play a role in the maintenance of T cell quiescence. The prototype member of the Schlafen family, Slfn1, is transcriptionally unregulated during thymocyte positive selection, and the induction of Slfn1 induces a G_0/G_1 arrest, suggesting that Slfn1 participates in the regulation of cell cycle and potentially acts as a determining factor for apoptosis. These proteins all contain a largely conserved core domain within the center of the sequence, and yet they are substantially diversified at the N terminus. Slfn1 and Slfn2 are both unregulated during the double-positive (DP) and single-positive (SP) stages of thymocyte development, whereas Slfn4 is down regulated at these stages. Changes in Schalfen protein expression may contribute to phenotypic differences seen in thymic subsets.

REFERENCES

1. Marrack, P. and Kappler, J. 1997. Positive selection of thymocytes bearing $\alpha\,\beta$ T cell receptors. Curr. Opin. Immunol. 9: 250-255.
2. Mehr, R., et al. 1997. Regulatory feedback pathways in the thymus. Immunol. Today 18: 581-585.
3. Takeuchi, T., et al. 1997. Transgenic expression of a novel thymic epithelial cell antigen stimulates abberant development of thymocytes. J. Immunol. 159: 726-733.
4. Hershberger, P.A., et al. 1998. *In vitro* thymocyte maturation is associated with reduced cellular susceptibility to FAS-mediated apoptosis. Cell. Immunol. 185: 134-145.
5. Schwarz, D.A., et al. 1998. Schlafen, a new family of growth regulatory genes that affect thymocyte development. Immunity 9: 657-668.
6. Benoist, C. and Mathis, D. 1999. T-cell development: a new marker of differentiation state. Curr. Biol. 9: R59-R61.

CHROMOSOMAL LOCATION

Genetic locus: Slfn2 (mouse) mapping to 11 C.

PRODUCT

Slfn2 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 Slfn2 shRNA Plasmid (m): sc-40925-SH and Slfn2 shRNA (m) Lentiviral Particles: sc-40925-V as alternate gene silencing products.

For independent verification of Slfn2 (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-40925A, sc-40925B and sc-40925C.

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

Slfn2 siRNA (m) is recommended for the inhibition of Slfn2 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 Slfn2 gene expression knockdown using RT-PCR Primer: Slfn2 (m)-PR: sc-40925-PR (20 µl, 494 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Mavrommatis, E., et al. 2013. Expression and regulatory effects of murine Schlafen (Slfn) genes in malignant melanoma and renal cell carcinoma. J. Biol. Chem. 288: 33006-33015.

RESEARCH USE

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