SANTA CRUZ BIOTECHNOLOGY, INC.

Slfn11 siRNA (h): sc-93615

BACKGROUND

Schlafen family members 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. All members of the Schlafen family contain a conserved core domain and are substantially diversified at the N terminus. The prototype member of the Schlafen family, Slfn1, is transcriptionally unregulated during thymocyte positive selection and its induction leads to G_0/G_1 arrest, suggesting that Slfn1 participates in the regulation of cell cycle and potentially acts as a determining factor for apoptosis. 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. Slfn11 (Schlafen family member 11), also known as SLFN8/9, is a 901 amino acid protein belonging to the Schlafen family.

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. Schwarz, D.A., et al. 1998. Schlafen, a new family of growth regulatory genes that affect thymocyte development. Immunity 9: 657-668.
5. 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.
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7. Benoist, C. and Mathis, D. 1999. T-cell development: a new marker of differentiation state. Curr. Biol. 9: R59-R61.
8. Brady, G., et al. 2005. Schlafen-1 causes a cell cycle arrest by inhibiting induction of cyclin D1. J. Biol. Chem. 280: 30723-30734.

CHROMOSOMAL LOCATION

Genetic locus: SLFN11 (human) mapping to 17q12.

PRODUCT

Slfn11 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 Slfn11 shRNA Plasmid (h): sc-93615-SH and Slfn11 shRNA (h) Lentiviral Particles: sc-93615-V as alternate gene silencing products.

For independent verification of Slfn11 (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-93615A, sc-93615B and sc-93615C.

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

Slfn11 siRNA (h) is recommended for the inhibition of Slfn11 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

Slfn11 (E-4): sc-374339 is recommended as a control antibody for monitoring of Slfn11 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 Slfn11 gene expression knockdown using RT-PCR Primer: Slfn11 (h)-PR: sc-93615-PR (20 µl, 390 bp). 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.