

SlfnL1 siRNA (m): sc-153593

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. The prototype member of the Schlafen family, Slfn1, is transcriptionally unregulated during thymocyte positive selection, and the induction of Slfn1 induces a G₀/G₁ 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. As a member of the Schlafen family, SlfnL1 (Schlafen-like protein 1) is a 407 amino acid protein that shares structural similarities to other Schlafen proteins and exists as four alternatively spliced isoforms.

REFERENCES

- Schwarz, D.A., Katayama, C.D. and Hedrick, S.M. 1998. Schlafen, a new family of growth regulatory genes that affect thymocyte development. *Immunity* 9: 657-668.
- Geserick, P., Kaiser, F., Klemm, U., Kaufmann, S.H. and Zerrahn, J. 2004. Modulation of T cell development and activation by novel members of the Schlafen (slfn) gene family harbouring an RNA helicase-like motif. *Int. Immunol.* 16: 1535-1548.
- Brady, G., Boggan, L., Bowie, A. and O'Neill, L.A. 2005. Schlafen-1 causes a cell cycle arrest by inhibiting induction of cyclin D1. *J. Biol. Chem.* 280: 30723-30734.
- Bell, T.A., de la Casa-Esperón, E., Doherty, H.E., Ideraabdullah, F., Kim, K., Wang, Y., Lange, L.A., Wilhemsen, K., Lange, E.M., Sapienza, C. and de Villena, F.P. 2006. The paternal gene of the DDK syndrome maps to the Schlafen gene cluster on mouse chromosome 11. *Genetics* 172: 411-423.
- Neumann, B., Zhao, L., Murphy, K. and Gonda, T.J. 2008. Subcellular localization of the Schlafen protein family. *Biochem. Biophys. Res. Commun.* 370: 62-66.
- Zhao, L., Neumann, B., Murphy, K., Silke, J. and Gonda, T.J. 2008. Lack of reproducible growth inhibition by Schlafen1 and Schlafen2 *in vitro*. *Blood Cells Mol. Dis.* 41: 188-193.
- Bustos, O., Naik, S., Ayers, G., Casola, C., Perez-Lamigueiro, M.A., Chippindale, P.T., Pritham, E.J. and de la Casa-Esperón, E. 2009. Evolution of the Schlafen genes, a gene family associated with embryonic lethality, meiotic drive, immune processes and orthopoxvirus virulence. *Gene* 447: 1-11.
- Yuan, L., Yu, Y., Sanders, M.A., Majumdar, A.P. and Basson, M.D. 2010. Schlafen 3 induction by cyclic strain regulates intestinal epithelial differentiation. *Am. J. Physiol. Gastrointest. Liver Physiol.* 298: G994-G1003.
- Horton, M.R. and Powell, J.D. 2010. Quieting T cells with Slfn2. *Nat. Immunol.* 11: 281-282.

CHROMOSOMAL LOCATION

Genetic locus: SlfnL1 (mouse) mapping to 4 D2.2.

PRODUCT

SlfnL1 siRNA (m) is a pool of 2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SlfnL1 shRNA Plasmid (m): sc-153593-SH and SlfnL1 shRNA (m) Lentiviral Particles: sc-153593-V as alternate gene silencing products.

For independent verification of SlfnL1 (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-153593A and sc-153593B.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SlfnL1 siRNA (m) is recommended for the inhibition of SlfnL1 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 μ M in 66 μ l. 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 SlfnL1 gene expression knockdown using RT-PCR Primer: SlfnL1 (m)-PR: sc-153593-PR (20 μ l). 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.