SANTA CRUZ BIOTECHNOLOGY, INC.

TCL-1A siRNA (m): sc-42989

BACKGROUND

T cell leukemia/lymphoma protein 1A (TCL-1A), also known as p14^{TCL-1}, is a product of the TCL-1 gene that is involved in T cell prolymphocytic leukemia (T-PLL). T-PLL is a rare form of mature T cell leukemia, which is consistently associated with chromosomal rearrangements characterized by the juxtaposition of the TCRA locus on chromosome 14q11 and the TCL-1A gene on 14q32.13. TCL-1A is a member of a unique family of β-barrel proteins that bind small hydrophobic ligands and function in cell regulation. TCL-1A is an all-β protein containing an eight-stranded antiparallel β-barrel which consists of two four-stranded β-meander motifs. The two motifs are related by a twofold axis and connected by a long loop. TCL-1A forms a tight crystallographic dimer. TCL-1A is expressed in pre-B cells, in immature thymocytes, at low levels in activated T cells and in the cytoplasm.

REFERENCES

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3. Hoh, F., Yang, Y.S., Guignard, L., Padilla, A., Stern, M.H., Lhoste, J.M. and van Tilbeurgh, H. 1998. Crystal structure of p14^{TCL-1}, an oncogene product involved in T cell prolymphocytic leukemia, reveals a novel β-barrel topology. Structure 6: 147-155.
4. Du Bois, G.C., Song S.P., Kulikovskaya, I., Virgilio, L., Varnum, J., Germann, M.W. and Croce, C.M. 1998. Purification and characterization of recombinant forms of TCL-1 and MTCP-1 proteins. Protein Expr. Purif. 12: 215-225.
5. Yang, Y.S., Guignard, L., Padilla, A., Hoh, F., Strub, M.P., Stern, M.H., Lhoste, J.M. and Roumestand, C. 1998. Solution structure of the recombinant human oncoprotein p13^{MTCP-1}. J. Biomol. NMR 11: 337-354.

CHROMOSOMAL LOCATION

Genetic locus: Tcl1 (mouse) mapping to 12 E.

PRODUCT

TCL-1A 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 TCL-1A shRNA Plasmid (m): sc-42989-SH and TCL-1A shRNA (m) Lentiviral Particles: sc-42989-V as alternate gene silencing products.

For independent verification of TCL-1A (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-42989A, sc-42989B and sc-42989C.

RESEARCH USE

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

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

TCL-1A siRNA (m) is recommended for the inhibition of TCL-1A 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

TCL-1A (A-6): sc-393436 is recommended as a control antibody for monitoring of TCL-1A 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 TCL-1A gene expression knockdown using RT-PCR Primer: TCL-1A (m)-PR: sc-42989-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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