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TCL-1B siRNA (h): sc-42990

BACKGROUND

T cell leukemia/lymphoma protein 1B, TCL-1B, also designated TML1, TCL/MTCP1-like 1, syncytiotrophoblast-specific protein and SYN-1, is involved in T cell prolymphocytic leukemia (T-PLL). TCL-1B is located within the region on human chromosome 14q32.13 which in T cell leukemias and lymphomas, is frequently involved in chromosomal translocations and inversions with one of the T cell receptor loci. TCL-1B is activated by chromosomal rearrangements involving the TCL1 locus. In mouse, TCL-1B is represented by five homologues, TCL-1B1-TCL-1B5. The crystal structure of TCL-1B suggests that it may play a role in the transport of small molecules such as retinoids, nucleotides and fatty acids. TCL-1B is found in both the nucleus and the cytoplasm of normal bone marrow and peripheral lymphocytes.

REFERENCES

1. Fu, T.B., et al. 1994. Characterization and localization of the TCL-1 oncogene product. *Cancer Res.* 54: 6297-6301.
2. Fu, Z.Q., et al. 1998. Crystal structure of MTCP-1: implications for role of TCL-1 and MTCP-1 in T cell malignancies. *Proc. Natl. Acad. Sci. USA* 95: 3413-3418.
3. Sugimoto, J., et al. 1999. Identification of the TCL1/MTCP1-like 1 (TML1) gene from the region next to the TCL1 locus. *Cancer Res.* 59: 2313-2317.
4. Pekarsky, Y., et al. 1999. Abnormalities at 14q32.1 in T cell malignancies involve two oncogenes. *Proc. Natl. Acad. Sci. USA* 96: 2949-2951.
5. Hallas, C., et al. 1999. Genomic analysis of human and mouse TCL1 loci reveals a complex of tightly clustered genes. *Proc. Natl. Acad. Sci. USA* 96: 14418-14423.
6. Pekarsky, Y., et al. 2000. TCL-1 enhances Akt kinase activity and mediates its nuclear translocation. *Proc. Natl. Acad. Sci. USA* 97: 3028-3033.

CHROMOSOMAL LOCATION

Genetic locus: TCL1B (human) mapping to 14q32.13.

PRODUCT

TCL-1B 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TCL-1B shRNA Plasmid (h): sc-42990-SH and TCL-1B shRNA (h) Lentiviral Particles: sc-42990-V as alternate gene silencing products.

For independent verification of TCL-1B (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-42990A, sc-42990B and sc-42990C.

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 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

TCL-1B siRNA (h) is recommended for the inhibition of TCL-1B 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 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.

GENE EXPRESSION MONITORING

TCL-1B (H-3): sc-365169 is recommended as a control antibody for monitoring of TCL-1B 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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-1B gene expression knockdown using RT-PCR Primer: TCL-1B (h)-PR: sc-42990-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.