

Sil siRNA (h): sc-44775

BACKGROUND

TAL1 disruption at 1p32, a common rearrangement in the T-cell acute lymphoblastic leukemia, usually results in the formation of a SCL interrupting locus (Sil)-TAL1 fusion product. Sil is an immediate early gene whose expression is associated with cell proliferation. The Sil protein exhibits ubiquitous expression in hematopoietic cell lines and tissues. However, Sil protein levels remain tightly regulated during the cell cycle, achieving peak levels in mitosis and diminishing on transition to G₁ phase. Overexpression of Sil in primary adenocarcinomas predicts metastatic spread, especially in lung tumors with increased mitotic activity.

REFERENCES

1. Aplan, P.D., et al. 1990. Disruption of the human SCL locus by "illegitimate" V(D)-J recombinase activity. *Science* 250: 1426-1429.
2. Aplan, P.D., et al. 1991. Structural characterization of Sil, a gene frequently disrupted in T-cell acute lymphoblastic leukemia. *Mol. Cell. Biol.* 11: 5462-5469.
3. Collazo-Garcia, N., et al. 1995. Cloning and characterization of a murine Sil gene. *Genomics* 30: 506-513.
4. Izraeli, S., et al. 1999. The Sil gene is required for mouse embryonic axial development and left-right specification. *Nature* 399: 691-694.
5. Raghavan, S.C., et al. 2001. Analysis of the V(D)J recombination efficiency at lymphoid chromosomal translocation breakpoints. *J. Biol. Chem.* 276: 29126-29133.

CHROMOSOMAL LOCATION

Genetic locus: STIL (human) mapping to 1p33.

PRODUCT

Sil 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 Sil shRNA Plasmid (h): sc-44775-SH and Sil shRNA (h) Lentiviral Particles: sc-44775-V as alternate gene silencing products.

For independent verification of Sil (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-44775A, sc-44775B and sc-44775C.

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

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

Sil (A-6): sc-271910 is recommended as a control antibody for monitoring of Sil 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 Sil gene expression knockdown using RT-PCR Primer: Sil (h)-PR: sc-44775-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Heppler, L.N., et al. 2022. The antimicrobial drug pyrimethamine inhibits Stat3 transcriptional activity by targeting the enzyme dihydrofolate reductase. *J. Biol. Chem.* 298: 101531.

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.