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Sil shRNA (m) Lentiviral Particles: sc-44776-V

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.
6. Curry, J.D., et al. 2003. Measurement of Sil-TAL1 fusion gene transcripts associated with human T-cell lymphocytic leukemia by real-time reverse transcriptase-PCR. *Leuk. Res.* 27: 575-582.

CHROMOSOMAL LOCATION

Genetic locus: Sil (mouse) mapping to 4 D1.

PRODUCT

Sil shRNA (m) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 µl frozen stock containing 1.0 x 10⁶ infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see Sil siRNA (m): sc-44776 and Sil shRNA Plasmid (m): sc-44776-SH as alternate gene silencing products.

STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

PROTOCOLS

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

APPLICATIONS

Sil shRNA (m) Lentiviral Particles is recommended for the inhibition of Sil expression in mouse cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 µl frozen viral stock containing 1.0 x 10⁶ infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Sil gene expression knockdown using RT-PCR Primer: Sil (m)-PR: sc-44776-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.