SANTA CRUZ BIOTECHNOLOGY, INC.

MLLT6 siRNA (h): sc-75800

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The Power to Question

BACKGROUND

The gene encoding the mixed-lineage leukemia (MLL) proteins is located on chromosome 11q23. Chromosomal translocations involving band 11q23 result in rogue activator proteins that are associated with approximately 10% of patients with acute lymphoblastic leukemia (ALL) and 5% of patients with acute myeloid leukemia (AML). Most patients affected are less than 1 year of age. The gene encoding MLLT6, also known as mixed-lineage leukemia translocated to 6 or AF17, is located on chromosome 17q12 and encodes a 1,093 amino acid protein that is thought to be involved in the translocations on chromosome 11q23. Localized to the nucleus, MLLT6 contains a leucine-zipper dimerization motif located 3' of the fusion point and a cysteine-rich domain at the C-terminus. MLLT6 is thought to play a role in ALL by repressing the activity of the truncated ALL1 protein.

REFERENCES

1. Corral, J., Forster, A., Thompson, S., Lampert, F., Kaneko, Y., Slater, R., Kroes, W.G., van der Schoot, C.E., Ludwig, W.D. and Karpas, A. 1993. Acute leukemias of different lineages have similar MLL gene fusions encoding related chimeric proteins resulting from chromosomal translocation. Proc. Natl. Acad. Sci. USA 90: 8538-8542.
2. Thompson, K.A., Wang, B., Argraves, W.S., Giancotti, F.G., Schranck, D.P. and Ruoslahti, E. 1994. BR140, a novel zinc-finger protein with homology to the TAF250 subunit of TFIID. Biochem. Biophys. Res. Commun. 198: 1143-1152.
3. Prasad, R., Leshkowitz, D., Gu, Y., Alder, H., Nakamura, T., Saito, H., Huebner, K., Berger, R., Croce, C.M. and Canaani, E. 1994. Leucine-zipper dimerization motif encoded by the AF17 gene fused to ALL-1 (MLL) in acute leukemia. Proc. Natl. Acad. Sci. USA 91: 8107-8111.
4. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 600328. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Lin, Y.M., Ono, K., Satoh, S., Ishiguro, H., Fujita, M., Miwa, N., Tanaka, T., Tsunoda, T., Yang, K.C., Nakamura, Y. and Furukawa, Y. 2001. Identification of AF17 as a downstream gene of the β-catenin/T-cell factor pathway and its involvement in colorectal carcinogenesis. Cancer Res. 61: 6345-6349.
6. Kleiter, N., Artner, I., Gmachl, N., Ghaffari-Tabrizi, N. and Kratochwil, K. 2002. Mutagenic transgene insertion into a region of high gene density and multiple linkage disruptions on mouse chromosome 11. Cytogenet. Genome Res. 97: 100-105.
7. Moore, S.D., Strehl, S. and Dal Cin, P. 2005. Acute myelocytic leukemia with t(11;17)(q23;q12-q21) involves a fusion of MLL and AF17. Cancer Genet. Cytogenet. 157: 87-89.

CHROMOSOMAL LOCATION

Genetic locus: MLLT6 (human) mapping to 17q12.

PROTOCOLS

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

PRODUCT

MLLT6 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MLLT6 shRNA Plasmid (h): sc-75800-SH and MLLT6 shRNA (h) Lentiviral Particles: sc-75800-V as alternate gene silencing products.

For independent verification of MLLT6 (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-75800A, sc-75800B and sc-75800C.

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

MLLT6 siRNA (h) is recommended for the inhibition of MLLT6 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MLLT6 gene expression knockdown using RT-PCR Primer: MLLT6 (h)-PR: sc-75800-PR (20 µl). 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.