SANTA CRUZ BIOTECHNOLOGY, INC.

ZFYVE19 siRNA (h): sc-90097

BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. ZFYVE19 (zinc finger, FYVE domain containing 19), also known as MPFYVE (MLL partner containing FYVE domain), is a 471 amino acid protein that contains one FYVE-type zinc finger. Expressed in heart, brain, kidney, skeletal muscle and liver, ZFYVE19 may participate in transcriptional regulation events within the cell. Defects in the gene encoding ZFYVE19 are associated with acute myeloblastic leukemia (AML), a rapidly progressing cancer of the myeloid line of white blood cells that is characterized by fever, anemia, bone pain, shortness of breath and frequent infections. Three isoforms of ZFYVE19 exist due to alternative splicing events.

REFERENCES

1. Hayette, S., et al. 2000. AF15q14, a novel partner gene fused to the MLL gene in an acute myeloid leukaemia with a t(11;15)(q23;q14). Oncogene 19: 4446-4450.
2. Shibuya, N., et al. 2001. t(10;11)-acute leukemias with MLL-AF10 and MLL-ABI1 chimeric transcripts: specific expression patterns of ABI1 gene in leukemia and solid tumor cell lines. Genes Chromosomes Cancer 32: 1-10.
3. Ono, R., et al. 2002. LCX, leukemia-associated protein with a CXXC domain, is fused to MLL in acute myeloid leukemia with trilineage dysplasia having t(10;11)(q22;q23). Cancer Res. 62: 4075-4080.
4. Chinwalla, V., et al. 2003. A t(11;15) fuses MLL to two different genes, AF15q14 and a novel gene MPFYVE on chromosome 15. Oncogene 22: 1400-1410.
5. Kuefer, M.U., et al. 2003. Characterization of the MLL partner gene AF15q14 involved in t(11;15)(q23;q14). Oncogene 22: 1418-1424.
6. Olsen, J.V., et al. 2006. Global, *in vivo,* and site-specific phosphorylation dynamics in signaling networks. Cell 127: 635-648.

CHROMOSOMAL LOCATION

Genetic locus: ZFYVE19 (human) mapping to 15q15.1.

PRODUCT

ZFYVE19 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 ZFYVE19 shRNA Plasmid (h): sc-90097-SH and ZFYVE19 shRNA (h) Lentiviral Particles: sc-90097-V as alternate gene silencing products.

For independent verification of ZFYVE19 (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-90097A, sc-90097B and sc-90097C.

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 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

ZFYVE19 siRNA (h) is recommended for the inhibition of ZFYVE19 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.

GENE EXPRESSION MONITORING

ZFYVE19 (J-24): sc-101051 is recommended as a control antibody for monitoring of ZFYVE19 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 ZFYVE19 gene expression knockdown using RT-PCR Primer: ZFYVE19 (h)-PR: sc-90097-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.