

MOZ siRNA (h): sc-37959

BACKGROUND

MOZ (monocytic leukemia zinc finger protein) is a chromatin-associated histone acetyltransferase (HAT) that regulates chromatin remodeling and transcription. The MOZ gene was initially isolated as a consequence of two variant translocations that were identified in a distinct subtype of acute myeloid leukemias and resulted in the formation of MOZ fusion proteins. These fusions involve the HAT domain of MOZ with the activation domain of either transcriptional coactivator protein TIF2/GRIP1 or CBP, and lead to enhanced transcriptional activation by a mechanism involving aberrant histone acetylation. Additional MOZ related proteins, including MORF (MOZ related factor) and TIP60 (TAT interacting proteins 60), share significant similarities with MOZ including the putative HAT domain. MORF also contains a strong transcriptional repression domain at its N-terminus and a highly potent activation domain at the C-terminus, suggesting that MORF has both HAT activity and contributes to the regulation of transcriptional activation. TIP60 was originally identified as a coactivator for the HIV TAT protein and also functions as a nuclear hormone receptor coactivator that enhances ligand dependent steroid receptor-mediated transactivation involving the androgen, estrogen and progesterone receptors.

REFERENCES

1. Borrow, J., et al. 1996. The translocation t(8;16)(p11;p13) of acute myeloid leukaemia fuses a putative acetyltransferase to the CREB-binding protein. *Nat. Genet.* 14: 33-41.
2. Hilfiker, A., et al. 1997. MOF, a putative acetyl transferase gene related to the Tip60 and MOZ human genes and to the SAS genes of yeast, is required for dosage compensation in *Drosophila*. *EMBO J.* 16: 2054-2060.

CHROMOSOMAL LOCATION

Genetic locus: KAT6A (human) mapping to 8p11.21.

PRODUCT

MOZ 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 MOZ shRNA Plasmid (h): sc-37959-SH and MOZ shRNA (h) Lentiviral Particles: sc-37959-V as alternate gene silencing products.

For independent verification of MOZ (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-37959A, sc-37959B and sc-37959C.

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

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

MOZ (4D8): sc-293283 is recommended as a control antibody for monitoring of MOZ 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 MOZ gene expression knockdown using RT-PCR Primer: MOZ (h)-PR: sc-37959-PR (20 μ l, 583 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Xue, P., et al. 2016. Decreased MORF leads to prolonged endoplasmic reticulum stress in periodontitis-associated chronic inflammation. *Cell Death Differ.* 23: 1862-1872.
2. Dupont, L., et al. 2019. Src family kinase activity drives cytomegalovirus reactivation by recruiting MOZ histone acetyltransferase activity to the viral promoter. *J. Biol. Chem.* 294: 12901-12910.

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.