SANTA CRUZ BIOTECHNOLOGY, INC.

TIP60 siRNA (h): sc-37966

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. Addi-tional MOZ related proteins, including MORF (MOZ related factor) and TIP60 (TAT interacting proteins 60), share significant similarities with MOZ including the putuative 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.

CHROMOSOMAL LOCATION

Genetic locus: KAT5 (human) mapping to 11q13.1.

PRODUCT

TIP60 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 TIP60 shRNA Plasmid (h): sc-37966-SH and TIP60 shRNA (h) Lentiviral Particles: sc-37966-V as alternate gene silencing products.

For independent verification of TIP60 (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-37966A, sc-37966B and sc-37966C.

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

TIP60 siRNA (h) is recommended for the inhibition of TIP60 expression in human cells.

PROTOCOLS

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

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

TIP60 (C-7): sc-166323 is recommended as a control antibody for monitoring of TIP60 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TIP60 gene expression knockdown using RT-PCR Primer: TIP60 (h)-PR: sc-37966-PR (20 µl, 521 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Niida, H., et al. 2010. Essential role of TIP60-dependent recruitment of ribonucleotide reductase at DNA damage sites in DNA repair during G_1 phase. Genes Dev. 24: 333-338.
2. Zhao, H., et al. 2012. The histone acetyltransferase TIP60 interacts with c-Myb and inactivates its transcriptional activity in human leukemia. J. Biol. Chem. 287: 925-934.
3. Conacci-Sorrell, M., et al. 2014. Stress-induced cleavage of Myc promotes cancer cell survival. Genes Dev. 28: 689-707.
4. Castillo-Chabeco, B., et al. 2018. Ethanol-induced modulation of GPR55 expression in human monocyte-derived dendritic cells is accompanied by H4K12 acetylation. Alcohol 71: 25-31.
5. Lu, M., et al. 2019. ACOT12-dependent alteration of acetyl-CoA drives hepatocellular carcinoma metastasis by epigenetic induction of epithelial-mesenchymal transition. Cell Metab. 29: 886-900.e5.
6. Dubey, S., et al. 2022. TIP60 acts as a regulator of genes involved in filopodia formation and cell migration during wound healing. J. Biol. Chem. 298: 102015.
7. Masroni, M.S.B., et al. 2023. Dynamic altruistic cooperation within breast tumors. Mol. Cancer 22: 206.

RESEARCH USE

For research use only, not for use in diagnostic procedures.