

MZF-1 siRNA (m): sc-149771

BACKGROUND

Zinc finger genes that encode metal-binding proteins are transcriptional regulators of other genes. Myeloid zinc finger-1 (MZF-1), also designated zinc finger protein 42, and transcription factor ZBP-89, also designated zinc finger protein 148, belong to the krueppel C₂H₂-type zinc finger protein family. The gene encoding for the MZF-1 protein maps to chromosome 19q13.43 while the gene encoding for ZBP-89 is localized on chromosome 3q21. These proteins are nuclear proteins involved in the regulation of transcriptional events. MZF-1 regulates transcription during hemopoietic development and plays a role in myeloid cell differentiation. MZF-1 regulates the CD34 promoter in a tissue-specific manner. MZF-1 and FHL-3 can form a complex of high molecular mass with other proteins in the nucleus. It is induced by retinoic acid and is primarily expressed in differentiating myeloid cells.

REFERENCES

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2. Morris, J.F., et al. 1995. The myeloid zinc finger gene, MZF-1, regulates the CD34 promoter *in vitro*. *Blood* 86: 3640-3647.
3. Baseggio, L., et al. 2004. Allele-specific binding to the -308 single nucleotide polymorphism site in the tumour necrosis factor α promoter. *Eur. J. Immunogenet.* 31: 15-19.
4. Rothem, L., et al. 2004. Reduced folate carrier gene silencing in multiple antifolate-resistant tumor cell lines is due to a simultaneous loss of function of multiple transcription factors but not promoter methylation. *J. Biol. Chem.* 279: 374-384.
5. Rossi, V., et al. 2004. TAIL1: an isthmin-like gene, containing type 1 thrombospondin-repeat and AMOP domain, mapped to ARVD1 critical region. *Gene* 335:101-108.
6. Takahashi, K., et al. 2005. FHL-3 negatively regulates human high-affinity IgE receptor β -chain gene expression by acting as a transcriptional co-repressor of MZF-1. *Biochem J.* 386:191-200.

CHROMOSOMAL LOCATION

Genetic locus: Mzf1 (mouse) mapping to 7 A1.

PRODUCT

MZF-1 siRNA (m) is a pool of 2 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 MZF-1 shRNA Plasmid (m): sc-149771-SH and MZF-1 shRNA (m) Lentiviral Particles: sc-149771-V as alternate gene silencing products.

For independent verification of MZF-1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-149771A and sc-149771B.

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

MZF-1 siRNA (m) is recommended for the inhibition of MZF-1 expression in mouse 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MZF-1 gene expression knockdown using RT-PCR Primer: MZF-1 (m)-PR: sc-149771-PR (20 μ l). 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.

PROTOCOLS

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