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# MIER1 siRNA (m): sc-149429

## BACKGROUND

The mesoderm induction early response (MIER) protein family (also known as the fibroblast growth factor (FGF)-regulated immediate-early protein family) comprises a group of proteins that are activated by FGF (fibroblast growth factor). This suggests that MIER proteins may play a significant role in FGF-regulated cellular activities and in the progression of certain cancers. MIER proteins contain one SANT domain, which is involved in transcriptional activation and repression, and one ELM2 domain, which was first characterized in *egl-27*, a gene that is critically involved in embryonic patterning of *C. elegans*. MIER1, formerly known as early response 1 (ER1), was first cloned and characterized in *Xenopus*. Expression of MIER1 is negligible in most normal tissues, but has been found to be upregulated in breast carcinoma cell lines and tumors. MIER1 functions as a transcriptional repressor of a number of genes including Sp1 target genes, most likely through interaction with HDAC1.

## REFERENCES

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8. Blackmore, T.M., Mercer, C.F., Paterno, G.D. and Gillespie, L.L. 2008. The transcriptional cofactor MIER1- $\beta$  negatively regulates histone acetyltransferase activity of the CREB-binding protein. *BMC Res. Notes* 1: 68.

## CHROMOSOMAL LOCATION

Genetic locus: Mier1 (mouse) mapping to 4 C6.

## RESEARCH USE

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

## PRODUCT

MIER1 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MIER1 shRNA Plasmid (m): sc-149429-SH and MIER1 shRNA (m) Lentiviral Particles: sc-149429-V as alternate gene silencing 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

MIER1 siRNA (m) is recommended for the inhibition of MIER1 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  $\mu$ M in 66  $\mu$ 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 MIER1 gene expression knockdown using RT-PCR Primer: MIER1 (m)-PR: sc-149429-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.