



c-Maf siRNA (m): sc-38112

BACKGROUND

Members of the Maf family of basic region/leucine zipper (bZIP) transcription factors affect transcription in either a positive or negative fashion, depending on their particular protein partner and the context of the target promoter. c-Maf (Maf-2) and the closely related family members, neural retina leucine zipper (Nrl), L-Maf and Krm1/MafB (Maf-1), all bind to T-MARE sites and have been implicated in a wide variety of developmental and physiologic roles. The three small Maf family proteins (MafF, MafG and MafK) are components of NF-E2 that function as heterodimers with the large tissue-restricted subunit of NF-E2, called p45, and they are implicated in the transcriptional regulation of many erythroid-specific genes. MafB is expressed in a wide variety of tissues and encodes a protein containing a typical bZIP motif in its carboxy-terminal region. As a transcriptional activator, MafB plays a pivotal role in regulating lineage-specific gene expression during hematopoiesis by repressing Ets-1-mediated transcription of key erythroid-specific genes in myeloid cells. c-Maf interacts with the c-Myb DNA binding domain and forms Myb-Maf complexes, which, in turn, mediate the cooperative interactions between c-Myb and Ets-1 during early myeloid cell differentiation.

REFERENCES

1. Kerppola, T.K., et al. 1994. A conserved region adjacent to the basic domain is required for recognition of an extended DNA binding site by Maf/Nrl family proteins. *Oncogene* 9: 3149-3158.
2. Igarashi, K., et al. 1995. Conditional expression of the ubiquitous transcription factor MafK induces erythroleukemia cell differentiation. *Proc. Natl. Acad. Sci. USA* 92: 7445-7449.

CHROMOSOMAL LOCATION

Genetic locus: Maf (mouse) mapping to 8 E1.

PRODUCT

c-Maf siRNA (m) 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 c-Maf shRNA Plasmid (m): sc-38112-SH and c-Maf shRNA (m) Lentiviral Particles: sc-38112-V as alternate gene silencing products.

For independent verification of c-Maf (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-38112A, sc-38112B and sc-38112C.

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

c-Maf siRNA (m) is recommended for the inhibition of c-Maf 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.

GENE EXPRESSION MONITORING

c-Maf (6B8): sc-293420 is recommended as a control antibody for monitoring of c-Maf 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 c-Maf gene expression knockdown using RT-PCR Primer: c-Maf (m)-PR: sc-38112-PR (20 μ l, 501 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Wang, C.R., et al. 2019. Knockout of microRNA-155 ameliorates the Th17/Th9 immune response and promotes wound healing. *Curr. Med. Sci.* 39: 954-964.
2. Liu, M., et al. 2020. Transcription factor c-Maf is a checkpoint that programs macrophages in lung cancer. *J. Clin. Invest.* 130: 2081-2096.
3. Xue, J., et al. 2023. Phosphatidylserine promotes immunotherapy for airway allergy. *Immunol. Lett.* 264: 46-55.

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.