SANTA CRUZ BIOTECHNOLOGY, INC.

MafF siRNA (m): sc-38098

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 Krml1/MafB (Maf-1) all bind to T-MARE sites and are 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, which function as heterodimers with the large tissue-restricted subunit of NF-E2 called p45, and furthermore are implicated in the transcriptional regulation of many erythroid-specific genes. MafG is ubiquitously expressed, with highest expression in the VMS, heart and skeletal muscle; its expression is induced in response to stress. MafK, also designated NF-E2 p18, is primarily expressed during development in mesenchymal and hematopoietic cells and neurons. MafK heterodimerizes with NF-E2 and various CNC proteins. MafF is most abundantly expressed in the lung and is thought to compensate for loss of function mutations in MafG and MafK.

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.
3. Kataoka, K., et al. 1995. Small Maf proteins heterodimerize with Fos and may act as competitive repressors of the NF-E2 transcription factor. Mol. Cell. Biol. 15: 2180-2190.
4. Johnsen, O., et al. 1996. Small Maf proteins interact with the human transcription factor TCF11/Nrf1/LCR-F1. Nucleic Acids Res. 24: 4289-4297.
5. Matsushima-Hibiya, Y., et al. 1998. Rat Maf-related factors: the specificities of DNA binding and heterodimer formation. Biochem. Biophys. Res. Commun. 245: 412-418.
6. Hedge, S.P., et al. 1998. c-Maf interacts with c-Myb to regulate transcription of an early myeloid gene during differentiation. Mol. Cell. Biol. 18: 2729-2737.

CHROMOSOMAL LOCATION

Genetic locus: Maff (mouse) mapping to 15 E1.

PRODUCT

MafF 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MafF shRNA Plasmid (m): sc-38098-SH and MafF shRNA (m) Lentiviral Particles: sc-38098-V as alternate gene silencing products.

For independent verification of MafF (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-38098A, sc-38098B and sc-38098C.

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

MafF siRNA (m) is recommended for the inhibition of MafF 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 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

MafF/G/K (D-12): sc-166548 is recommended as a control antibody for monitoring of MafF 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 MafF gene expression knockdown using RT-PCR Primer: MafF (m)-PR: sc-38098-PR (20 µl). 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 for detailed protocols and support products.