SANTA CRUZ BIOTECHNOLOGY, INC.

MORF4L2 siRNA (m): sc-38048

BACKGROUND

The MORF-related genes on chromosomes X (MRGX, also known as MORF4L) proteins are members of the mortality factor (MORF) family of transcriptional regulators that are involved in cell growth, regulation and senescence. MORF4L2 is a 288-amino acid transcription factor that is expressed ubiquitously in all vertebrates. MORF4L2 localizes to the nucleus, and it has a protein kinase C phosphorylation site as well as a tyrosine phosphorylation site. MORF4L2 interacts with the Rb tumor suppressor through its helix-loop-helix and leucine zipper regions. MORF4L2 has histone deacetylase activity and can either repress or promote the activity of the B-myb promoter depending on the tissue. Unlike other MORF related proteins, overexpression of MORF4L2 does not lead to abnormal nuclear morphology or cell death.

REFERENCES

1. Nomura, N., et al. 1995. Prediction of the coding sequences of unidentified human genes. I. The coding sequences of 40 new genes (KIAA0001-KIAA0040) deduced by analysis of randomly sampled cDNA clones from human immature myeloid cell line KG-1. DNA Res. 1: 27-35.
2. Bertram, M.J., et al. 1999. Identification of a gene that reverses the immortal phenotype of a subset of cells and is a member of a novel family of transcription factor-like genes. Mol. Cell. Biol. 19: 1479-1485.
3. Yochum, G.S. and Ayer, D.E. 2002. Role for the mortality factors MORF4, MRGX, and MRG15 in transcriptional repression via associations with Pf1, mSin3A, and Transducin-Like Enhancer of Split. Mol. Cell. Biol. 22: 7868-7876.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300409. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Tominaga, K., et al. 2003. MRGX is a novel transcriptional regulator that exhibits activation or repression of the B-myb promoter in a cell type-dependent manner. J. Biol. Chem. 278: 49618-49624.
6. Tominaga, K., et al. 2005. MrgX is not essential for cell growth and development in the mouse. Mol. Cell. Biol. 25: 4873-4880.

CHROMOSOMAL LOCATION

Genetic locus: Morf4l2 (mouse) mapping to X F1.

PRODUCT

MORF4L2 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 MORF4L2 shRNA Plasmid (m): sc-38048-SH and MORF4L2 shRNA (m) Lentiviral Particles: sc-38048-V as alternate gene silencing products.

For independent verification of MORF4L2 (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-38048A, sc-38048B and sc-38048C.

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

MORF4L2 siRNA (m) is recommended for the inhibition of MORF4L2 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

MORF4L1/2 (E-2): sc-393208 is recommended as a control antibody for monitoring of MORF4L1 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 MORF4L2 gene expression knockdown using RT-PCR Primer: MORF4L2 (m)-PR: sc-38048-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.