SANTA CRUZ BIOTECHNOLOGY, INC.

MORF4L1 siRNA (h): sc-38045

BACKGROUND

The members of the mortality factor family include mortality factor 4 (MORF4), MORF4L1 (also known as MRG15) and MORF4-related gene X (MRGX). The human MORF4 gene maps to chromosome 4q34.1. MORF4 induces a senescent-like phenotype in complementation group B immortal cell lines. The genes encoding MRG15 and MRGX map to chromosomes 15q24 and Xq22, respectively. MORF4, MORF4L1 and MRGX each contain a C-terminal leucine zipper. An association between MORF4L1, Rb (retinoblastoma tumor suppressor) and PAM14 (protein associated with MORF4L1) suggests a role for MORF4L1 in transcription regulation. MORF4L1 also associates with the histone acetyl transferase MOF. In addition, MORF4 and MRGX interact with mSin3A and TLE (transducin-like enhancer of split). The MORF/mSin3A/TLE association may repress transcription. In Purkinje cells, MORF4L1 localizes to the dendrites and the nuclei.

REFERENCES

1. Bertram, M.J., Berube, N.G., Hang-Swanson, X., Ran, Q., Leung, J.K., Bryce, S., Spurgers, K., Bick, R.J., Baldini, A., Ning, Y., Clark, L.J., Parkinson, E.K., Barrett, J.C., Smith, J.R. and Pereira-Smith, O.M. 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.
2. Leung, J.K., Berube, N., Venable, S., Ahmed, S., Timchenko, N. and Pereira-Smith, O.M. 2001. MRG15 activates the B-Myb promoter through formation of a nuclear complex with the retinoblastoma protein and the novel protein PAM14. J. Biol. Chem. 276: 39171-39178.
3. Pardo, P.S., Leung, J.K., Lucchesi, J.C. and Pereira-Smith, O.M. 2002. MRG15, a novel chromodomain protein, is present in two distinct multiprotein complexes involved in transcriptional activation. J. Biol. Chem. 277: 50860-50866.
4. 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.

CHROMOSOMAL LOCATION

Genetic locus: MORF4L1 (human) mapping to 15q25.1.

PRODUCT

MORF4L1 siRNA (h) 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 MORF4L1 shRNA Plasmid (h): sc-38045-SH and MORF4L1 shRNA (h) Lentiviral Particles: sc-38045-V as alternate gene silencing products.

For independent verification of MORF4L1 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-38045A, sc-38045B and sc-38045C.

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

MORF4L1 siRNA (h) is recommended for the inhibition of MORF4L1 expression in human 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 (E-8): sc-514877 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 MORF4L1 gene expression knockdown using RT-PCR Primer: MORF4L1 (h)-PR: sc-38045-PR (20 µl, 353 bp). 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.