



Mrf-2 siRNA (m): sc-149552

BACKGROUND

Mrf-2 (modulator recognition factor 2), also known as ARID5B (AT-rich inter-active domain-containing protein 5B), MRF1-like protein or DESRT, is a 1,188 amino acid nuclear protein that functions as a transcription coactivator and is involved in adipogenesis. Also implicated as a regulator of smooth muscle cell differentiation and proliferation, Mrf-2 is widely expressed, contains one ARID domain which it utilizes to interact with DNA, and is a member of the ARID5B family. Mrf-2 exists as three alternatively spliced isoforms that are encoded by a gene that maps to human chromosome 10q21.2. Defects in the Mrf-2 gene may contribute to susceptibility to acute lymphoblastic leukemia (ALL), a cancer of white blood cells that is one of the most common malignancies found in children.

REFERENCES

1. Whitson, R.H., et al. 1999. The novel Mrf-2 DNA-binding domain recognizes a five-base core sequence through major and minor-groove contacts. *Biochem. Biophys. Res. Commun.* 258: 326-331.
2. Zhu, L., et al. 2001. Dynamics of the Mrf-2 DNA-binding domain free and in complex with DNA. *Biochemistry* 40: 9142-9150.
3. Lahoud, M.H., et al. 2001. Gene targeting of Desrt, a novel ARID class DNA-binding protein, causes growth retardation and abnormal development of reproductive organs. *Genome Res.* 11: 1327-1334.
4. Whitson, R.H., et al. 2003. Neonatal mortality and leanness in mice lacking the ARID transcription factor Mrf-2. *Biochem. Biophys. Res. Commun.* 312: 997-1004.
5. Patsialou, A., et al. 2005. DNA-binding properties of ARID family proteins. *Nucleic Acids Res.* 33: 66-80.
6. Wang, G., et al. 2008. Genetic variations of Mrf-2/ARID5B confer risk of coronary atherosclerosis in the Japanese population. *Int. Heart J.* 49: 313-327.
7. Treviño, L.R., et al. 2009. Germline genomic variants associated with childhood acute lymphoblastic leukemia. *Nat. Genet.* 41: 1001-1005.
8. Papaemmanuil, E., et al. 2009. Loci on 7p12.2, 10q21.2 and 14q11.2 are associated with risk of childhood acute lymphoblastic leukemia. *Nat. Genet.* 41: 1006-1010.
9. Prasad, R.B., et al. 2010. Verification of the susceptibility loci on 7p12.2, 10q21.2, and 14q11.2 in precursor B-cell acute lymphoblastic leukemia of childhood. *Blood* 115: 1765-1767.

CHROMOSOMAL LOCATION

Genetic locus: Arid5b (mouse) mapping to 10 B5.1.

PRODUCT

Mrf-2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Mrf-2 shRNA Plasmid (m): sc-149552-SH and Mrf-2 shRNA (m) Lentiviral Particles: sc-149552-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 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

Mrf-2 siRNA (m) is recommended for the inhibition of Mrf-2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Mrf-2 gene expression knockdown using RT-PCR Primer: Mrf-2 (m)-PR: sc-149552-PR (20 μ l, 540 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.