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# MYEF2 siRNA (m): sc-149735

## BACKGROUND

Myelin basic protein (MBP) binds to negatively charged lipids on the cytosolic surface of oligodendrocyte membranes and is responsible for adhesion of these surfaces in multilayered Myelin sheaths. As a member of a larger family of proteins with many forms and post-translational modifications, MBP appears to have several other functions as a result of these modifications, including participating in the transmission of extracellular signals, as well as cell signaling. These modifications of MBP are dynamic during normal central nervous system (CNS) development and during Myelin degeneration in multiple sclerosis (MS). Regulation of the human MBP gene occurs at the MB1 regulatory motif located between nucleotides -14 to -50. The MB1 element contains binding sites for both the activator protein MEF-1/Pur $\alpha$  and the repressor protein MYEF2. MYEF2 is a nuclear protein whose expression is developmentally regulated in mouse brain with peak expression occurring at postnatal day 7. Four isoforms of MYEF2 exist due to alternative splicing events.

## REFERENCES

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2. Haas, S., Steplewski, A., Siracusa, L.D., Amini, S. and Khalili, K. 1995. Identification of a sequence-specific single-stranded DNA binding protein that suppresses transcription of the mouse myelin basic protein gene. *J. Biol. Chem.* 270: 12503-12510.
3. Muralidharan, V., Tretiakova, A., Steplewski, A., Haas, S., Amini, S., Johnson, E. and Khalili, K. 1997. Evidence for inhibition of MYEF2 binding to MBP promoter by MEF-1/Pur $\alpha$ . *J. Cell. Biochem.* 66: 524-531.
4. Harauz, G., Ishiyama, N., Hill, C.M., Bates, I.R., Libich, D.S. and Farès, C. 2004. Myelin basic protein-diverse conformational states of an intrinsically unstructured protein and its roles in myelin assembly and multiple sclerosis. *Micron* 35: 503-542.
5. Boggs, J.M. 2006. Myelin basic protein: a multifunctional protein. *Cell. Mol. Life Sci.* 63: 1945-1961.
6. Musse, A.A. and Harauz, G. 2007. Molecular "negativity" may underlie multiple sclerosis: role of the myelin basic protein family in the pathogenesis of MS. *Int. Rev. Neurobiol.* 79: 149-172.
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## CHROMOSOMAL LOCATION

Genetic locus: Myef2 (mouse) mapping to 2 F1.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

MYEF2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MYEF2 shRNA Plasmid (m): sc-149735-SH and MYEF2 shRNA (m) Lentiviral Particles: sc-149735-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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

MYEF2 siRNA (m) is recommended for the inhibition of MYEF2 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  $\mu$ M in 66  $\mu$ 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 MYEF2 gene expression knockdown using RT-PCR Primer: MYEF2 (m)-PR: sc-149735-PR (20  $\mu$ l). 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.