SANTA CRUZ BIOTECHNOLOGY, INC.

# MEF-2D siRNA (m): sc-38065

## BACKGROUND

The myocyte enhancer factor-2 (MEF-2) family of transcription factors associate with co-repressors or co-activators to regulate development and function of T cells, neuronal cells, and muscle cells. Four family members arise from alternatively spliced transcripts, termed MEF-2A, -2B, -2C, and -2D. These members bind as homo- and heterodimers to the MEF-2 site in the promoter region of affected genes. Differential regulation in the expression of the four transcripts implies functional distinction for each duing embryogenesis and development. The process of differentiation from mesodermal precursor cells to myoblasts has led to the discovery of a variety of tissue-specific factors that regulate muscle gene expression. The myogenic basic helix-loop-helix proteins, including MyoD, myogenin, Myf-5, and MRF4, are one class of identified factors. A second family of DNA binding regulatory proteins is the myocyte-specific enhancer factor-2 (MEF-2) family. Each of these proteins binds to the MEF-2 target DNA sequence present in the regulatory regions of many muscle-specific genes.

## REFERENCES


1. Hidaka, K., et al. 1995. The MEF2B homologue differentially expressed in mouse embryonal carcinoma cells. Biochem. Biophys. Res. Commun. 213: 555-560.
2. Hobson, G.M., et al. 1995. Regional chromosomal assignments for four members of the MADS domain transcription enhancer factor 2 (MEF2) gene family to human chromosomes 15q26, 19p12, 5q14, and 1q12-q23. Genomics 29: 704-711.
3. Zhao, M., et al. 1999. Regulation of the MEF2 family of transcription factors by p38. Mol. Cell. Biol. 19: 21-30.
4. Slepak, T.I., et al. 2001. Control of cardiac-specific transcription by p300 through myocyte enhancer factor-2D. J. Biol. Chem. 276: 7575-7585.
5. Bryant, H., et al. 2002. Signal transduction and transcription factor modification during reactivation of Epstein-Barr virus from latency. J. Virol. 76: 10290-10298.
6. Han, A., et al. 2003. Sequence-specific recruitment of transcriptional co-repressor Cabin1 by myocyte enhancer factor-2. Nature 422: 730-734.


## CHROMOSOMAL LOCATION

Genetic locus: Mef2d (mouse) mapping to 3 F1.

## PRODUCT

MEF-2D 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 MEF-2D shRNA Plasmid (m): sc-38065-SH and MEF-2D shRNA (m) Lentiviral Particles: sc-38065-V as alternate gene silencing products.

For independent verification of MEF-2D (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-38065A, sc-38065B and sc-38065C.

## 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

MEF-2D siRNA (m) is recommended for the inhibition of MEF-2D 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

MEF-2D (H-11): sc-271153 is recommended as a control antibody for monitoring of MEF-2D 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 MEF-2D gene expression knockdown using RT-PCR Primer: MEF-2D (m)-PR: sc-38065-PR (20 µl, 572 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


1. Lee, S.H., et al. 2021. LGI1 governs neuritin-mediated resilience to chronic stress. Neurobiol. Stress 15: 100373.


## RESEARCH USE

For research use only, not for use in diagnostic procedures.