SANTA CRUZ BIOTECHNOLOGY, INC.

MEF-2D (9): sc-136196

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The myocyte enhancer factor-2 (MEF-2) family of transcription factors associate with corepessors 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 MEF-2B 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 (MEF-2) gene family to human chromosomes 15q26, 19p12, 5q14, and 1q12-q23. Genomics 29: 704-711.
3. Zhao, M., et al. 1999. Regulation of the MEF-2 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 corepressor Cabin-1 by myocyte enhancer factor-2. Nature 422: 730-734.
7. Feng, W.H., et al. 2004. Lytic induction therapy for Epstein-Barr virus-positive B cell lymphomas. J. Virol. 78: 1893-1902.
8. Otani, K., et al. 2004. Calpain system regulates muscle mass and glucose transporter Glut4 turnover. J. Biol. Chem. 279: 20915-20920.
9. Meissner, J.D., et al. 2007. Activation of the β myosin heavy chain promoter by MEF-2D, MyoD, p300, and the calcineurin/NFATc1 pathway. J. Cell. Physiol. 211: 138-148.

CHROMOSOMAL LOCATION

Genetic locus: MEF2D (human) mapping to 1q22; Mef2d (mouse) mapping to 3 F1.

SOURCE

MEF-2D (9) is a mouse monoclonal antibody raised against amino acids 346-511 of MEF-2D of mouse origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

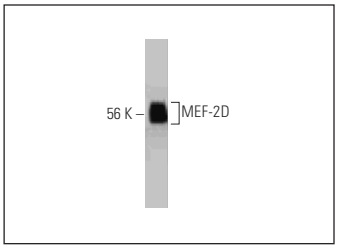
MEF-2D (9) is recommended for detection of MEF-2D of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); not recommended for immunoprecipitation.

Suitable for use as control antibody for MEF-2D siRNA (h): sc-38064, MEF-2D siRNA (m): sc-38065, MEF-2D shRNA Plasmid (h): sc-38064-SH, MEF-2D shRNA Plasmid (m): sc-38065-SH, MEF-2D shRNA (h) Lentiviral Particles: sc-38064-V and MEF-2D shRNA (m) Lentiviral Particles: sc-38065-V.

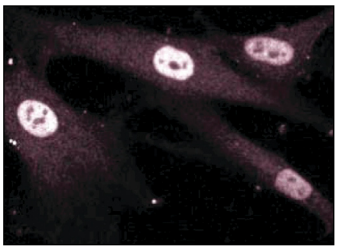
Molecular Weight of MEF-2D: 56 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

DATA



MEF-2D (9): sc-136196. Western blot analysis of MEF-2D expression in HeLa whole cell lysate.



MEF-2D (9): sc-136196. Immunofluorescence staining of human fibroblast cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Juszczuk-Kubiak, E., et al. 2012. Effects of new polymorphisms in the bovine myocyte enhancer factor 2D (MEF2D) gene on the expression rates of the longissimus dorsi muscle. Mol. Biol. Rep. 39: 8387-8393.
2. Zhang, J., et al. 2017. An integrated approach to identify critical transcription factors in the protection against hydrogen peroxide-induced oxidative stress by Danhong injection. Free Radic. Biol. Med. 112: 480-493.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.