SANTA CRUZ BIOTECHNOLOGY, INC.

p-MEF-2 (B-11): sc-377535

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

MEF-2 is a muscle-specific DNA binding protein that recognizes an A+T-rich sequence [CTA (A/T)4 TAG] localized in the control regions of numerous muscle-specific genes. MEF-2 belongs to the MADS (MCM1, agamous, deficiens and serum-response factor) box family of transcription factors. The MEF-2 proteins arise from several alternatively spliced isoforms of the MEF-2 gene. MEF-2 expression is ubiquitous, but appears to be preferential in skeletal and cardiac muscle cells. Phosphorylation of different MEF-2C isoforms affects their expression pattern and transactivation function. Big MAP kinase 1 (BMK1) enhances the transactivation activity of MEF-2C by phosphorylating Ser 387. Serum is a potent stimulator of BMK1-induced MEF-2C phosphorylation. p38 MAPK can phosphorylate MEF-2C at positions Ser 387, Thr 293 and Thr 300. Phosphorylation of MEF-2C by either p38 MAPK or ERK5/BMK1 is necessary for Smad-MEF-2 signaling cooperativity.

REFERENCES

1. Rosenthal, N. 1989. Muscle cell differentiation. Curr. Opin. Cell Biol. 1: 1094-1101.
2. Gossett, L.A., et al. 1989. A new myocyte-specific enhancer-binding factor that recognizes a conserved element associated with multiple muscle-specific genes. Mol. Cell. Biol. 9: 5022-5033.
3. Emerson, C.P. 1990. Myogenesis and developmental control genes. Curr. Opin. Cell Biol. 2: 1065-1075.
4. Olson, E.N. 1990. MyoD family: a paradigm for development? Genes Dev. 4: 1454-1461.

CHROMOSOMAL LOCATION

Genetic locus: MEF2C (human) mapping to 5q14.3; Mef2c (mouse) mapping to 13 C3.

SOURCE

p-MEF-2 (B-11) is a mouse monoclonal antibody specific for an epitope corresponding to a short amino acid sequence containing Ser 387 phosphorylated MEF-2C of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-377535 X, 200 µg/0.1 ml.

p-MEF-2 (B-11) is available conjugated to agarose (sc-377535 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377535 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377535 PE), fluorescein (sc-377535 FITC), Alexa Fluor® 488 (sc-377535 AF488), Alexa Fluor® 546 (sc-377535 AF546), Alexa Fluor® 594 (sc-377535 AF594) or Alexa Fluor® 647 (sc-377535 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377535 AF680) or Alexa Fluor® 790 (sc-377535 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377535 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p-MEF-2 (B-11) is recommended for detection of Ser 387 phosphorylated MEF-2C of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

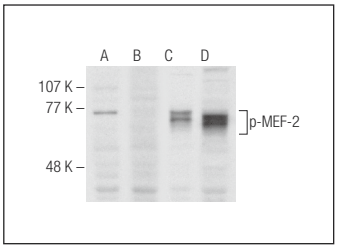
Suitable for use as control antibody for MEF-2C siRNA (h): sc-38062, MEF-2C siRNA (m): sc-38063, MEF-2C shRNA Plasmid (h): sc-38062-SH, MEF-2C shRNA Plasmid (m): sc-38063-SH, MEF-2C shRNA (h) Lentiviral Particles: sc-38062-V and MEF-2C shRNA (m) Lentiviral Particles: sc-38063-V.

p-MEF-2 (B-11) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of p-MEF-2: 40-65 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or SH-SY5Y cell lysate: sc-3812.

DATA



Western blot analysis of MEF-2 phosphorylation in calyculin A treated (**A**,**C**) and calyculin A and lambda protein phosphatase (sc-200312A) treated (**B**,**D**) SH-SY5Y whole cell lysates. Antibodies tested include p-MEF-2 (B-11): sc-377535 (**A**,**B**) and MEF-2A (B-4): sc-17785 (**C**,**D**).

SELECT PRODUCT CITATIONS

1. Jiang, S., et al. 2017. Extracellular signal-regulated kinase 5 is required for low-concentration H_2O_2-induced angiogenesis of human umbilical vein endothelial cells. Biomed Res. Int. 2017: 6895730.

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.

PROTOCOLS

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