SANTA CRUZ BIOTECHNOLOGY, INC.

p-MEF-2 (Ser 387)-R: sc-13920-R

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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.
5. Weintraub, H., et al. 1991. The MyoD gene family: nodal point during specification of the muscle cell lineage. Science 251: 761-766.

CHROMOSOMAL LOCATION

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

SOURCE

p-MEF-2 (Ser 387)-R is an affinity purified rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 387 phosphorylated MEF-2C of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13920 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-13920 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

p-MEF-2 (Ser 387)-R is recommended for detection of Ser 387 phosphorylated MEF-2C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (Ser 387)-R X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of p-MEF-2: 45 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Yoon, S.C., et al. 2005. Region-specific phosphorylation of ERK5-MEF-2C in the rat frontal cortex and hippocampus after electroconvulsive shock. Prog. Neuropsychopharmacol. Biol. Psychiatry 29: 749-753.
2. Chen, S.E., et al. 2005. Role of TNF-α signaling in regeneration of cardiotoxin-injured muscle. Am. J. Physiol. Cell Physiol. 289: 1179-1187.
3. Di Loreto, S., et al. 2008. Methylglyoxal causes strong weakening of detoxifying capacity and apoptotic cell death in rat hippocampal neurons. Int. J. Biochem. Cell Biol. 40: 245-257.

RESEARCH USE

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