SANTA CRUZ BIOTECHNOLOGY, INC.

MEF-2 (C-21): sc-313

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The myocyte enhancer factor-2 (MEF-2) family of transcription factors associated 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 during 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 MRF-4, 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.

SOURCE

MEF-2 (C-21) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of MEF-2 of human origin.

PRODUCT

Each vial contains 100 µg IgG 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-313 X, 100 µg/0.1 ml.

MEF-2 (C-21) is available conjugated to agarose (sc-313 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-313 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MEF-2 (C-21) is recommended for detection of MEF-2A and, to a lesser extent, MEF-2C and MEF-2D of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MEF-2 (C-21) is also recommended for detection of MEF-2A and, to a lesser extent, MEF-2C and MEF-2D in additional species, including equine, canine, bovine, porcine and avian.

MEF-2 (C-21) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

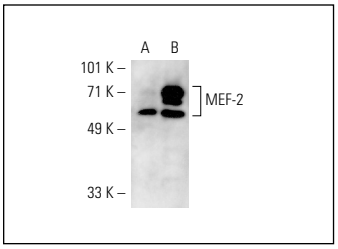
STORAGE

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

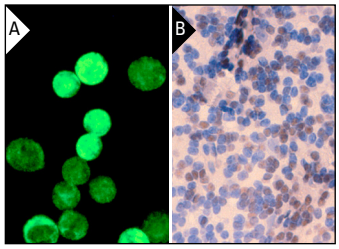
RESEARCH USE

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

DATA



MEF-2 (C-21): sc-313. Western blot analysis of MEF-2 expression in non-transfected: sc-110760 (**A**) and human MEF-2 transfected: sc-111308 (**B**) 293 whole cell lysates.



MEF-2 (C-21): sc-313. Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded mouse brain tissue showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. De Angelis, L., et al. 1998. Inhibition of myogenesis by transforming growth factor β is density-dependent and related to the translocation of transcription factor MEF-2 to the cytoplasm. Proc. Natl. Acad. Sci. USA 95: 12358-12363.
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3. Aude-Garcia, C., et al. 2010. Dual roles for MEF2A and MEF2D during human macrophage terminal differentiation and c-Jun expression. Biochem. J. 430: 237-244.
4. Darbellay, B., et al. 2010. Human muscle economy myoblast differentiation and excitation-contraction coupling use the same molecular partners, STIM1 and STIM2. J. Biol. Chem. 285: 22437-22447.
5. Micheli, L., et al. 2010. PC4/Tis7/IFRD1 stimulates skeletal muscle regeneration and is involved in myoblast differentiation as a regulator of MyoD and NFκB. J. Biol. Chem. 286: 5691-5707.
6. Shimoji, K., et al. 2010. G-CSF promotes the proliferation of developing cardiomyocytes *in vivo* and in derivation from ESCs and iPSCs. Cell Stem Cell 6: 227-237.
7. Sun, Y., et al. 2011. PCR DNA-array profiling of DNA-binding transcription factor activities in adult mouse tissues. Methods Mol. Biol. 687: 319-331.
8. Xiao, F., et al. 2012. TRAF6 promotes myogenic differentiation via the TAK1/p38 mitogen-activated protein kinase and Akt pathways. PLoS ONE 7: e34081.