SANTA CRUZ BIOTECHNOLOGY, INC.

myogenin (D-10): sc-13137

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Differentiation of myogenic cells is regulated by multiple positively and negatively acting factors. One well characterized family of helix-loop-helix (HLH) proteins known to play an important role in the regulation of muscle cell development includes MyoD, myogenin, Myf-5 and Myf-6 (also designated MRF-4 or herculin). Of interest, most muscle cells express either MyoD or Myf-5 in the committed state, but when induced to differentiate, all turn on expression of myogenin. MyoD transcription factors form heterodimers with products of a more widely expressed family of bHLH genes, the E family, which consists of at least three distinct genes: E2A, IF2 and HEB. MyoD-E heterodimers bind avidly to consensus (CANNTG) E box target sites that are functionally important elements in the upstream regulatory sequences of many muscle-specific terminal differentiation genes.

CHROMOSOMAL LOCATION

Genetic locus: MYOG (human) mapping to 1q32.1; Myog (mouse) mapping to 1 E4.

SOURCE

myogenin (D-10) is a mouse monoclonal antibody raised against amino acids 1-225 of myogenin of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 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-13137 X, 200 µg/0.1 ml.

APPLICATIONS

myogenin (D-10) is recommended for detection of myogenin of mouse, rat and human origin by Western Blotting (starting dilution 1:500, dilution range 1:500-1:2,000), 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 myogenin siRNA (h): sc-29402, myogenin siRNA (m): sc-35992, myogenin shRNA Plasmid (h): sc-29402-SH, myogenin shRNA Plasmid (m): sc-35992-SH, myogenin shRNA (h) Lentiviral Particles: sc-29402-V and myogenin shRNA (m) Lentiviral Particles: sc-35992-V.

myogenin (D-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of myogenin: 34 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287, RD whole cell lysate: sc-364791 or myogenin (m2): 293T Lysate: sc-121888.

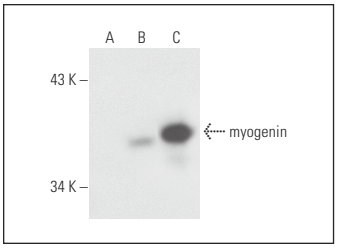
STORAGE

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

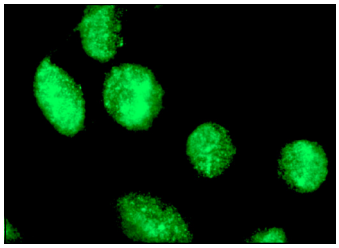
RESEARCH USE

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

DATA



myogenin (D-10): sc-13137. Western blot analysis of myogenin expression in non-transfected 293T: sc-117752 (**A**), mouse myogenin transfected 293T: sc-121888 (**B**) and SJRH30 (**C**) whole cell lysates.



myogenin (D-10): sc-13137. Immunofluorescence staining of methanol-fixed SJRH30 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

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3. Beffy, P., et al. 2010. Altered signal transduction pathways and induction of autophagy in human myotonic dystrophy type 1 myoblasts. Int. J. Biochem. Cell Biol. 42: 1973-1983.
4. Batlle, R., et al. 2013. Snail1 controls TGF-β responsiveness and differentiation of mesenchymal stem cells. Oncogene 32: 3381-3389.
5. Montesano, A., et al. 2015. Potential therapeutic role of L-carnitine in skeletal muscle oxidative stress and atrophy conditions. Oxid. Med. Cell. Longev. 2015: 646171.
6. Senesi, P., et al. 2016. Metformin treatment prevents sedentariness related damages in mice. J. Diabetes Res. 2016: 8274689.
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8. Terruzzi, I., et al. 2018. Effect of hazelnut oil on muscle cell signalling and differentiation. J. Oleo Sci. 67: 1315-1326.
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CONJUGATES

See **myogenin (5FD): sc-52903** for myogenin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.