SANTA CRUZ BIOTECHNOLOGY, INC.

MyoD (M-318): sc-760

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: MYOD1 (human) mapping to 11p15.1; Myod1 (mouse) mapping to 7 B4.

SOURCE

MyoD (M-318) is a rabbit polyclonal antibody raised against amino acids 1-318 representing full length MyoD protein of mouse origin.

PRODUCT

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

Available as agarose conjugate for immunoprecipitation, sc-760 AC, 500 µg/0.25 ml agarose in 1 ml.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-760 X, 200 µg/0.1 ml.

APPLICATIONS

MyoD (M-318) is recommended for detection of MyoD 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MyoD (M-318) is also recommended for detection of MyoD in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MyoD siRNA (h): sc-35990, MyoD siRNA (m): sc-35991, MyoD shRNA Plasmid (h): sc-35990-SH, MyoD shRNA Plasmid (m): sc-35991-SH, MyoD shRNA (h) Lentiviral Particles: sc-35990-V and MyoD shRNA (m) Lentiviral Particles: sc-35991-V.

MyoD (M-318) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

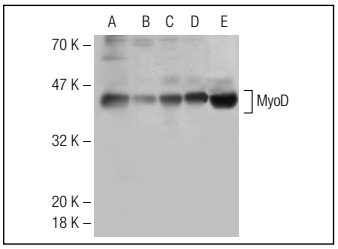
Molecular Weight of MyoD: 45 kDa.

Positive Controls: A-673 cell lysate: sc-2414, L8 cell lysate: sc-3807 or Sol8 cell lysate: sc-2249.

STORAGE

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

DATA



MyoD (M-318): sc-760. Western blot analysis of MyoD expression in L8 (**A**), A-673 (**B**), Sol8 (**C**) and C2C12 (**D**) whole cell lysates and mouse skeletal muscle tissue extract (**E**).

SELECT PRODUCT CITATIONS

1. Mummidi, S., et al. 2000. Evolution of human and non-human primate CC chemokine receptor 5 gene and mRNA. Potential roles for haplotype and mRNA diversity, differential haplotype-specific transcriptional activity, and altered transcription factor binding to polymorphic nucleotides in the pathogenesis of HIV-1 and simian immunodeficiency virus. J. Biol. Chem. 275: 18946-18961.
2. Faralli, H., et al. 2011. Teashirt-3, a novel regulator of muscle differentiation, associates with BRG1-associated factor 57 (BAF57) to inhibit myogenin gene expression. J. Biol. Chem. 286: 23498-23510.
3. Wieteska-Skrzeczynska, W., et al. 2011. Growth factor and cytokine interactions in myogenesis. Part I. The effect of TNF-α and IFN-γ on IGF-I-dependent differentiation in mouse C2C12 myogenic cells. Pol. J. Vet. Sci. 14: 417-424.
4. Nicklas, S., et al. 2012. TRIM32 regulates skeletal muscle stem cell differentiation and is necessary for normal adult muscle regeneration. PLoS ONE 7: e30445.
5. Martinez-Bello, V.E., et al. 2012. Three weeks of erythropoietin treatment hampers skeletal muscle mitochondrial biogenesis in rats. J. Physiol. Biochem. 68: 593-601.
6. Eapen, S.A., et al. 2012. Identification of a novel function for the chromatin remodeling protein ING2 in muscle differentiation. PLoS ONE 7: e40684.
7. Zanou, N., et al. 2012. Trpc1 ion channel modulates phosphatidylinositol 3-kinase/Akt pathway during myoblast differentiation and muscle regeneration. J. Biol. Chem. 287: 14524-1434.
8. Busanello, A., et al. 2012. MyoD regulates $p57^{kip2}$ expression by interacting with a distant *cis*-element and modifying a higher order chromatin structure. Nucleic Acids Res. 40: 8266-8275.

RESEARCH USE

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