

myogenin (G-3): sc-398002

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 (G-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 174-205 near the C-terminus of myogenin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-398002 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-398002 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

myogenin (G-3) is recommended for detection of myogenin of mouse, rat, human, equine and porcine 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).

myogenin (G-3) is also recommended for detection of myogenin in additional species, including equine and porcine.

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 (G-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

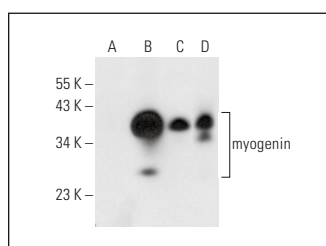
Molecular Weight of myogenin: 34 kDa.

Positive Controls: myogenin (h): 293T Lysate: sc-116551, SJRH30 cell lysate: sc-2287 or RD whole cell lysate: sc-364791.

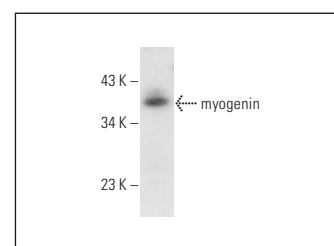
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



myogenin (G-3): sc-398002. Western blot analysis of myogenin expression in non-transfected 293T: sc-117752 (A), human myogenin transfected 293T: sc-116551 (B), SJRH30 (C) and RD (D) whole cell lysates.



myogenin (G-3): sc-398002. Western blot analysis of myogenin expression in Sol8 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Ray, R., et al. 2021. Atx regulates skeletal muscle regeneration via LPAR1 and promotes hypertrophy. *Cell Rep.* 34: 108809.
2. Fujimaki, T., et al. 2021. Exogenous parathyroid hormone attenuates ovariectomy-induced skeletal muscle weakness *in vivo*. *Bone* 151: 116029.
3. Ray, R. and Rai, V. 2022. Protocol for accelerated skeletal muscle regeneration and hypertrophic muscle formation in mice. *STAR Protoc.* 3: 101111.
4. Fovet, T., et al. 2022. Ergothioneine improves aerobic performance without any negative effect on early muscle recovery signaling in response to acute exercise. *Front. Physiol.* 13: 834597.
5. Pelletier, F., et al. 2023. Furan fatty acid extracted from *Hevea brasiliensis* latex increases muscle mass in mice. *Biomed. Pharmacother.* 166: 115330.

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.



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