

# MyoD (4H207): sc-71629

## 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, Irf2 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 (4H207) is a mouse monoclonal antibody raised against recombinant MyoD of mouse origin with an epitope mapping to amino acids 180-189.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

MyoD (4H207) is recommended for detection of MyoD of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range), 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with other MyoD family members.

Suitable for use as control antibody for MyoD siRNA (h): sc-35990, MyoD siRNA (m): sc-35991, MyoD siRNA (r): sc-270217, MyoD shRNA Plasmid (h): sc-35990-SH, MyoD shRNA Plasmid (m): sc-35991-SH, MyoD shRNA Plasmid (r): sc-270217-SH, MyoD shRNA (h) Lentiviral Particles: sc-35990-V, MyoD shRNA (m) Lentiviral Particles: sc-35991-V and MyoD shRNA (r) Lentiviral Particles: sc-270217-V.

Molecular Weight of MyoD: 45 kDa.

Positive Controls: L8 cell lysate: sc-3807, C2C12 whole cell lysate: sc-364188 or A-10 cell lysate: sc-3806.

## RESEARCH USE

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

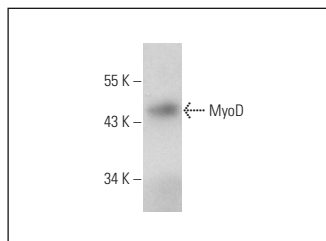
## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

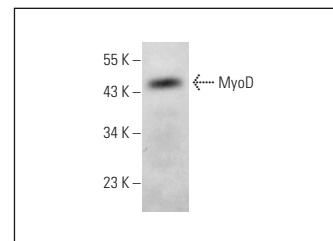
## STORAGE

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

## DATA



MyoD (4H207): sc-71629. Western blot analysis of MyoD expression in A-10 whole cell lysate.



MyoD (4H207): sc-71629. Western blot analysis of MyoD expression in C2C12 whole cell lysate.

## SELECT PRODUCT CITATIONS

- Karaoz, E. 2009. Pancreatic islet-derived stem cells may have a key role in type 1 diabetes pathogenesis. *Cell Tissue Biol. Res.* 2: 8-22.
- Karaoz, E., et al. 2010. Isolation and *in vitro* characterisation of dental pulp stem cells from natal teeth. *Histochem. Cell Biol.* 133: 95-112.
- Karaoz, E., et al. 2011. Human dental pulp stem cells demonstrate better neural and epithelial stem cell properties than bone marrow-derived mesenchymal stem cells. *Histochem. Cell Biol.* 136: 455-473.
- Gehmert, S., et al. 2014. Adipose tissue-derived stem cell secreted IGF-1 protects myoblasts from the negative effect of myostatin. *Biomed Res. Int.* 2014: 129048.
- Tian, Z.L., et al. 2015.  $\alpha 7$ nAChR is expressed in satellite cells at different myogenic status during skeletal muscle wound healing in rats. *J. Mol. Histol.* 46: 499-509.
- Tian, Z.L., et al. 2016. Detection of satellite cells during skeletal muscle wound healing in rats: time-dependent expressions of Pax7 and MyoD in relation to wound age. *Int. J. Legal Med.* 130: 163-172.
- Lim, C.H., et al. 2018. Effect of 8-week leucine supplementation and resistance exercise training on muscle hypertrophy and satellite cell activation in rats. *Physiol. Rep.* 6: e13725.
- Tarhriz, V., et al. 2019. Transient induction of Cdk9 in the early stage of differentiation is critical for myogenesis. *J. Cell. Biochem.* 120: 18854-18861.
- O'Brien, M.E., et al. 2020. Tumor necrosis factor- $\alpha$  regulates skeletal myogenesis by inhibiting SP1 interaction with *cis*-acting regulatory elements within the Fbxl2 gene promoter. *Mol. Cell. Biol.* 40: e00040-20.



See **MyoD (G-1): sc-377460** for MyoD antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.