

# MyoD (S-17): sc-31942

## 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.

## REFERENCES

- Braun, T., et al. 1989. A novel human muscle factor related to but distinct from Myo D1 induces myogenic conversion in 10T1/2 fibroblasts. *EMBO J.* 8: 701-709.
- Rhodes, S.J., et al. 1989. Identification of MRF4: a new member of the muscle regulatory factor gene family. *Genes Dev.* 3: 2050-2061.
- Wright, W.E., et al. 1989. Myogenin, a factor regulating myogenesis, has a domain homologous to MyoD. *Cell* 56: 607-617.
- Miner, J.H., et al. 1990. Herculins, a fourth member of the MyoD family of myogenic regulatory genes. *Proc. Natl. Acad. Sci. USA* 87: 1089-1093.
- Braun, T., et al. 1990. Myf-6, a new member of the human gene family of myogenic determination factors: evidence for a gene cluster on chromosome 12. *EMBO J.* 9: 821-831.
- Thayer, M.J., et al. 1993. A cellular factor stimulates the DNA-binding activity of MyoD and E47. *Proc. Natl. Acad. Sci. USA* 90: 6483-6487.

## CHROMOSOMAL LOCATION

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

## SOURCE

MyoD (S-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MyoD 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.

Blocking peptide available for competition studies, sc-31942 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-31942 X, 200 µg/0.1 ml.

## RESEARCH USE

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

## APPLICATIONS

MyoD (S-17) 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 (S-17) is also recommended for detection of MyoD in additional species, including equine, canine and bovine.

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.

MyoD (S-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

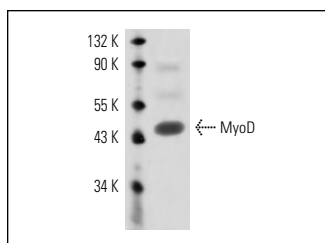
Molecular Weight of MyoD: 45 kDa.

Positive Controls: L8 cell lysate: sc-3807, rat skeletal muscle extract: sc-364810 or C2C12 nuclear extract.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



MyoD (S-17): sc-31942. Western blot analysis of MyoD expression in rat skeletal muscle tissue extract.

## STORAGE

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