



Myf-5 (M-18): sc-31949

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 Myo D. *Cell* 56: 607-617.
- Miner, J.H. et al. 1990. Herculim, a fourth member of the Myo D 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 Myo D and E47. *Proc. Natl. Acad. Sci. USA* 90: 6483-6487.
- Neuhold, L.A. et al. 1993. HLH forced dimers: tethering Myo D to E47 generates a dominant positive myogenic factor insulated from negative regulation by Id. *Cell* 74: 1033-1042.
- Hollenberg, S.M., et al. 1993. Use of a conditional Myo D transcription factor in studies of Myo D trans-activation and muscle determination. *Proc. Natl. Acad. Sci. USA* 90: 8028-8032.

CHROMOSOMAL LOCATION

Genetic locus: MYF5 (human) mapping to 12q21; Myf5 (mouse) mapping to 10 D1.

SOURCE

Myf-5 (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Myf-5 of mouse origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-31949 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-31949 X, 200 µg/0.1 ml.

APPLICATIONS

Myf-5 (M-18) is recommended for detection of Myf-5 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 Myf-5 siRNA (m): sc-35989.

Myf-5 (M-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Myf-5: 32 kDa.

Positive Controls: rat skeletal muscle 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) 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.