



## Myf-6 (1-242): sc-4097

### 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 Myo D, myogenin, Myf-5 and Myf-6 (also designated MRF-4 or herculin). Most muscle cells express either Myo D or Myf-5 in the committed state, but when induced to differentiate, all turn on expression of myogenin. Myo D 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. Myo D-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

1. 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.
2. Rhodes, S.J. et al. 1989. Identification of MRF4: a new member of the muscle regulatory factor gene family. *Genes Dev.* 3: 2050-2061.
3. Wright, W.E., et al. 1989. Myogenin, a factor regulating myogenesis, has a domain homologous to Myo D. *Cell* 56: 607-617.
4. Miner, J.H. et al. 1990. Herculin, a fourth member of the Myo D family of myogenic regulatory genes. *Proc. Natl. Acad. Sci. USA* 87: 1089-1093.
5. 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.
6. 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.
7. 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.
8. 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.

### SOURCE

Myf-6 (1-242) is expressed in *E. coli* as a 55 kDa tagged fusion protein corresponding to amino acids 1-242 representing full length Myf-6 (MRF-4) of rat origin.

### STORAGE

Store at -20° C; stable for one year from the date of shipment.

### PROTOCOLS

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

### PRODUCT

Myf-6 (1-242) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 50 µg purified protein in PBS containing 5 mM DTT and 50% glycerol.

Available as a Western blotting control; 10 µg in 0.1 ml SDS-PAGE loading buffer, Myf-6 (1-242): sc-4097 WB.

### APPLICATIONS

Myf-6 (1-242) is suitable as a Western blotting control for sc-301 and sc-784.

Molecular Weight of Myf-6: 30 kDa.

### SELECT PRODUCT CITATIONS

1. Conway, K., et al. 2004. The E protein HEB is preferentially expressed in developing muscle. *Differentiation* 72: 327-340.

### RESEARCH USE

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