

## Monoclonal Antibody to Myogenin (myf4)



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## Monoclonal Antibody to Myogenin (myf4)

**Catalog No :** IMG-131  
**Formulation :** 0.1 mg in 0.2 ml PBS containing 0.05% BSA and 0.05% sodium azide. Sodium azide is highly toxic  
**Isotype :** Mouse IgG1  
**Clone :** 5FD  
**Purification :** Protein G Chromatography  
**Species React :** Human, Mouse, Rat  
**Host :** Mouse

**Application**  
Western blot analysis: 2 ug/ml  
IF/ICC: 5 ug/ml  
IHC (paraffin): 10-20 ug/ml  
IHC (frozen): 5-10 ug/ml  
IHC (FFPE): 2.5-5 ug/ml

**Storage**  
Store at 4°C. For long term storage, store at -20°C.

**Recommended Positive Control:** Rh-30

### Background

Myogenin is a member of the MyoD family of myogenic basic helix-loop-helix (bHLH) transcription factors that also includes MyoD, Myf-5, and MRF4 (also known as herculinor Myf-6). MyoD family members are expressed exclusively in skeletal muscle and play a key role in activating myogenesis by binding to enhancer sequences of muscle-specific genes. The regulatory domain of MyoD is approximately 70 amino acids in length and includes both a basic DNA binding motif and a bHLH dimerization motif. MyoD family members share about 80% amino acid homology in their bHLH motifs. Transfection of myogenin and other family members into a variety of non-muscle cells has been shown to either convert these cells to myogenic cells, or to transcriptionally activate a set of otherwise unexpressed muscle-specific genes. In addition to activating muscle specific genes, members of the MyoD family members activate their own transcription and transactivate the transcription of other MyoD family members. For example, transfection of myogenin into 10T1/2 cells or Swiss 3T3 cells results in the activation of the endogenous myogenin gene as well as transactivation of MyoD. Likewise, the transfection of MyoD into these cells results in the activation of MyoD as well as the transactivation of myogenin. Each member of the MyoD family has distinct roles in muscle development; myogenin plays a key role in muscle maturation. Myogenin migrates at a molecular weight of ~34 kDa by SDS-PAGE.

### Antigen

A recombinant GST fusion protein corresponding to amino acids 30-224 of rat myogenin was used as immunogen.

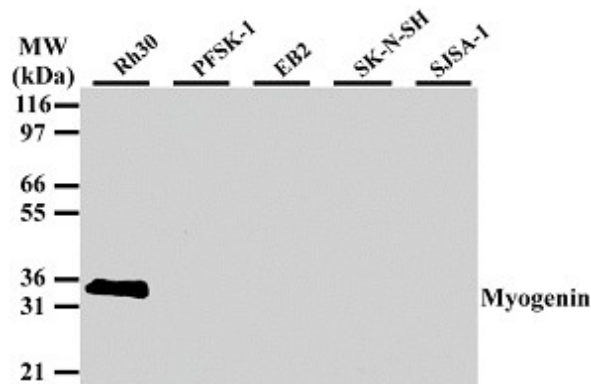
### Application Notes

The 5FD clone has been highly published; users are encouraged to consult the scientific literature for additional application information.

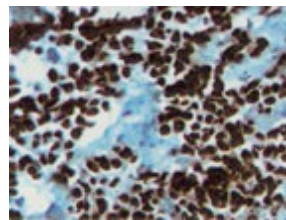
In Rh-30, a 34 kDa band should be observed. The antibody can be used for gel shift assays.

### Genebank Info (Protein)

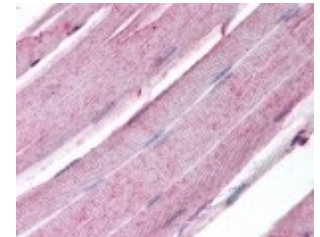
NP\_002470



Western blot analysis of Myogenin expression in various small-round cell tumor lines using anti-Myogenin (IMG-131) mAb. The antibody strongly reacted with a band of approx. 34 kDa in alveolar rhabdomyosarcoma cell line (Rh30). All other small-round cell tumor lines were negative. PFSK-1 (a primitive neuroectodermal tumor cell line), EB2 (a lymphoma cell line), SK-N-SH (a neuroblastoma cell line), SJSA-1 (Ewing sarcoma cell line).



Immunohistochemical analysis of Myogenin in a frozen tissue section of human alveolar rhabdomyosarcoma using IMG-131 at 5 ug/ml.



Immunohistochemical staining of Myogenin in formalin-fixed, paraffin-embedded human myocytes using IMG-134 at 2.5 ug/ml. Hematoxylin-eosin counterstain.

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## Related Products

1. 20101 [Goat Anti-Mouse Ig HRP Conjugate ]
2. IMG-5019A-1 [Monoclonal Antibody to GAPDH - Loading Control]
3. IMG-5019A-2 [Monoclonal Antibody to GAPDH - Loading Control]
4. 40166 [Rh30 cell line lysate (rhabdomyosarcoma)]

## Reference

1. Wang NP, Marx J, McNutt MA, Rutledge JC Gown AM: Expression of myogenic regulatory proteins (myogenin and MyoD1) in small blue round cell tumors of childhood. Am J Pathol 1995, 147:1799-1810
2. Hasty P, Bradley A, Morris JH, Edmondson DG, Venuti JM, Olson EN, Klein WH: Muscle deficiency and neonatal death in mice with a targeted mutation in the myogenin gene. Nature 1993, 364:501-506
3. Wright WE, Sasson DA, Lin VK: Myogenin, a factor regulating myogenesis, has a domain homologous to MyoD. Cell 1989, 56:607-617

## Product Citations

1. Strong Immunostaining for Myogenin in Rhabdomyosarcoma Is Significantly Associated with Tumors of the Alveolar Subclass Peter Dias, Bin Chen, Brad Dilday, Hal Palmer, Hajime Hosoi, Sujay Singh, Chun Wu, Xuo Li, Joyce Thompson, David Parham, Stephen Qualman, and Peter Houghton. Am. J. Pathol., 156: 399-408 (2002).

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