

Myogenin (Skeletal Muscle Marker) Antibody - With BSA and Azide
Mouse Monoclonal Antibody [Clone SPM144]
Catalog # AH10623

Specification

Myogenin (Skeletal Muscle Marker) Antibody - With BSA and Azide - Product Information

Application	,1,14,3,4,10,5,
Primary Accession	P15173
Other Accession	4656 , 2830
Reactivity	Human, Mouse, Rat, Pig, Cat
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1, kappa
Calculated MW	34kDa KDa

Myogenin (Skeletal Muscle Marker) Antibody - With BSA and Azide - Additional Information

Gene ID 4656

Other Names

Myogenin, Class C basic helix-loop-helix protein 3, bHLHc3, Myogenic factor 4, Myf-4, MYOG, BHLHC3, MYF4

Format

200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.

Storage

Store at 2 to 8°C. Antibody is stable for 24 months.

Precautions

Myogenin (Skeletal Muscle Marker) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

Myogenin (Skeletal Muscle Marker) Antibody - With BSA and Azide - Protein Information

Name MYOG

Synonyms BHLHC3, MYF4

Function

Acts as a transcriptional activator that promotes transcription of muscle-specific target genes and plays a role in muscle differentiation, cell cycle exit and muscle atrophy. Essential for the development of functional embryonic skeletal fiber muscle differentiation. However is dispensable for postnatal skeletal muscle growth; phosphorylation by CAMK2G inhibits its transcriptional activity in response to muscle activity. Required for the recruitment of the FACT complex to muscle-specific promoter regions, thus promoting gene expression initiation. During terminal

myoblast differentiation, plays a role as a strong activator of transcription at loci with an open chromatin structure previously initiated by MYOD1. Together with MYF5 and MYOD1, co-occupies muscle-specific gene promoter core regions during myogenesis. Cooperates also with myocyte-specific enhancer factor MEF2D and BRG1-dependent recruitment of SWI/SNF chromatin-remodeling enzymes to alter chromatin structure at myogenic late gene promoters. Facilitates cell cycle exit during terminal muscle differentiation through the up-regulation of miR-20a expression, which in turn represses genes involved in cell cycle progression. Binds to the E-box containing (E1) promoter region of the miR-20a gene. Plays also a role in preventing reversal of muscle cell differentiation. Contributes to the atrophy-related gene expression in adult denervated muscles. Induces fibroblasts to differentiate into myoblasts (By similarity).

Cellular Location

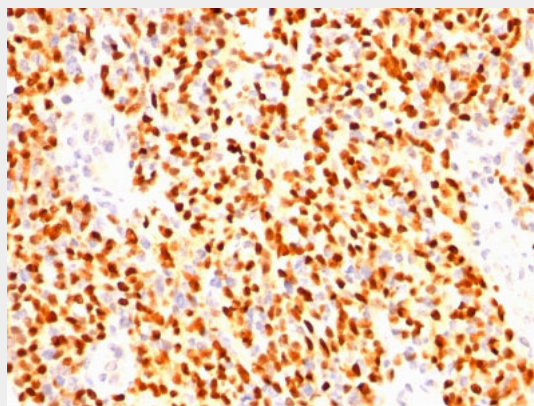
Nucleus. Note=Recruited to late myogenic gene promoter regulatory sequences with SMARCA4/BRG1/BAF190A and SWI/SNF chromatin-remodeling enzymes to promote chromatin-remodeling and transcription initiation in developing embryos.

Myogenin (Skeletal Muscle Marker) Antibody - With BSA and Azide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Myogenin (Skeletal Muscle Marker) Antibody - With BSA and Azide - Images



Formalin-fixed, paraffin-embedded human Rhabdomyosarcoma stained with Myogenin Monoclonal Antibody (SPM144)

Myogenin (Skeletal Muscle Marker) Antibody - With BSA and Azide - 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. Anti-myogenin labels the nuclei of myoblasts in developing muscle tissue, and is expressed in tumor cell nuclei of rhabdomyosarcoma and some leiomyosarcomas. Positive nuclear staining may occur in Wilms's tumor.

Myogenin (Skeletal Muscle Marker) Antibody - With BSA and Azide - References

Wang NP et. al. Am J Pathol 1995, 147:1799-1810