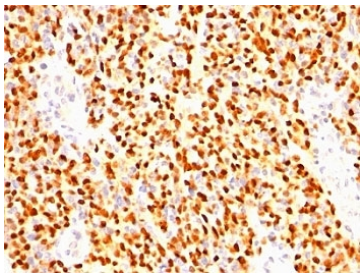
Myogenin Antibody Clone SPM144 / MYOG / Myf-4 [clone SPM144] (V9053)

Catalog No.	Formulation	Size
V9053-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V9053-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V9053SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V9053IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	SPM144
Purity	Protein G affinity chromatography
UniProt	P15173
Gene ID	4656
Localization	Nuclear
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This Myogenin antibody is available for research use only.



Myogenin Antibody Clone SPM144 immunohistochemistry analysis of Myogenin in human rhabdomyosarcoma. Formalin-fixed paraffin-embedded human rhabdomyosarcoma tissue stained with Myogenin antibody shows strong HRP-DAB brown chromogenic staining localized to the nuclei of tumor cells. The staining highlights numerous malignant cells with distinct nuclear positivity consistent with the role of Myogenin / MYOG as a nuclear transcription factor involved in skeletal muscle differentiation. Surrounding stromal elements show minimal staining, while tumor cell nuclei demonstrate the characteristic nuclear pattern associated with rhabdomyosarcoma.

Description

Myogenin (MYOG) is a skeletal muscle-specific transcription factor belonging to the myogenic regulatory factor family of basic helix-loop-helix proteins that control muscle cell differentiation. The Myogenin Antibody Clone SPM144 recognizes Myogenin, a nuclear regulatory protein essential for skeletal muscle development and terminal differentiation of myoblasts. The MYOG gene is located on chromosome 1q31 and encodes a transcription factor that functions within the nucleus of differentiating muscle cells where it activates muscle-specific gene expression programs.

During myogenesis, Myogenin acts together with other myogenic regulatory factors including MyoD, Myf5, and MRF4 to coordinate the transcriptional cascade required for skeletal muscle formation. After myogenic precursor cells commit to the muscle lineage, Myogenin drives the transition from proliferating myoblasts to differentiated myotubes. This process involves binding to E-box sequences within promoter regions of muscle-specific genes and recruiting transcriptional machinery that activates expression of structural proteins required for sarcomere assembly and contractile function.

Myogenin antibody is widely used as a marker of skeletal muscle differentiation because MYOG expression is normally restricted to developing or regenerating skeletal muscle cells. In healthy adult tissues, expression levels are typically low or absent outside skeletal muscle. This tissue-specific expression pattern makes Myogenin an important biomarker in developmental biology studies and in research focused on muscle regeneration, injury repair, and satellite cell activation.

In pathology, detection of Myogenin expression is particularly valuable in the diagnosis of tumors with skeletal muscle differentiation. Nuclear Myogenin expression is frequently observed in rhabdomyosarcoma and helps distinguish these tumors from other small round blue cell neoplasms. In particular, strong nuclear staining of Myogenin is characteristic of alveolar rhabdomyosarcoma and can assist in differentiating it from embryonal rhabdomyosarcoma and other sarcomas that lack myogenic lineage markers.

A Myogenin antibody such as clone SPM144 is suitable for detecting Myogenin expression in research applications examining muscle lineage commitment, myoblast differentiation, and tumors exhibiting skeletal muscle characteristics. Because Myogenin functions as a nuclear transcription factor, staining patterns are typically localized to the nucleus of muscle cells or tumor cells demonstrating skeletal muscle differentiation.

This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

The optimal dilution of the Myogenin Antibody Clone SPM144 for each application should be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 minutes.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Human recombinant protein was used as the immunogen for this anti-Myogenin antibody.

Storage

Store the Myogenin antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Myogenic factor 4 antibody, MYOG antibody, Myf4 antibody, Myogenic regulatory factor 4 antibody

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