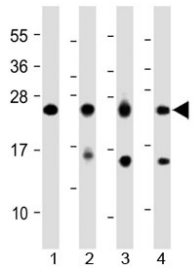
MYL1 Antibody / Fast Skeletal Muscle Myosin Light Chain Marker / Center Region (F54184)

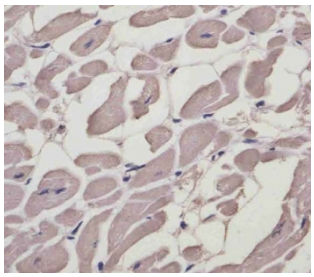
Catalog No.	Formulation	Size
F54184-0.2ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.2 ml
F54184-0.05ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.05 ml

Bulk quote request

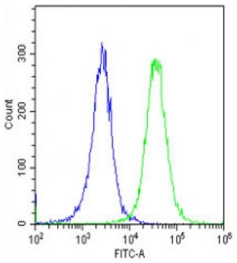
Availability	1-3 business days
Species Reactivity	Human, Mouse
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	P05976
Applications	Western blot: 1:1000-1:2000 IHC (FFPE): 1:25 Flow cytometry: 1:25
Limitations	This MYL1 Antibody / Fast Skeletal Muscle Myosin Light Chain Marker is available for research use only.



MYL1 Antibody Multi-Sample WB. Western blot analysis of human and rodent lysates using MYL1 antibody detecting Myosin light chain 1. Lane 1: human heart, Lane 2: human skeletal muscle, Lane 3: mouse skeletal muscle, Lane 4: rat skeletal muscle. A band is detected at approximately 20-22 kDa, consistent with the predicted molecular weight of MYL1. Stronger signal in skeletal muscle samples compared to heart tissue aligns with the preferential expression of MYL1 in fast skeletal muscle fibers, supporting its role as a contractile protein associated with myofibrillar structure.



MYL1 Antibody Heart IHC. Immunohistochemistry analysis of FFPE human heart tissue stained with MYL1 antibody detecting Myosin light chain 1. Cardiac muscle fibers show weak to minimal cytoplasmic staining compared to skeletal muscle, consistent with the preferential expression of MYL1 in fast skeletal muscle fibers rather than cardiac muscle. The staining highlights elongated muscle fibers with low-level signal, while surrounding stromal elements remain largely negative. Hematoxylin counterstain highlights nuclei in blue. HIER: boil tissue sections in pH 6, 10 mM citrate buffer for 10-20 min and allow to cool before testing.



MYL1 Antibody HeLa FACS. Flow cytometry analysis of fixed and permeabilized human HeLa cells stained with MYL1 antibody detecting Myosin light chain 1. The antibody signal (green) overlaps closely with the isotype control (blue), indicating minimal intracellular detection of MYL1 in HeLa cells. This profile is consistent with the restricted expression of MYL1 to fast skeletal muscle fibers and its low or absent expression in non-muscle epithelial cell lines.

Description

Myosin light chain 1 (MYL1) is a component of the myosin complex that plays a central role in skeletal muscle contraction. MYL1 is predominantly expressed in fast-twitch skeletal muscle fibers, where it associates with the myosin heavy chain to regulate contractile activity and stabilize the myosin head during force generation. MYL1 Antibody is used to detect this muscle-specific protein in studies of muscle structure, function, and fiber-type composition.

MYL1 belongs to the myosin light chain family, which includes regulatory and essential light chains that modulate the activity of the myosin motor protein. The MYL1 protein is considered an essential light chain that binds to the neck region of myosin heavy chains, contributing to the proper conformation and mechanical efficiency of the contractile apparatus. This interaction is critical for maintaining muscle performance and responsiveness during rapid contraction cycles characteristic of fast skeletal muscle.

Expression of MYL1 is largely restricted to skeletal muscle tissue, particularly in fast glycolytic fibers, and is commonly used as a marker to distinguish muscle fiber types. Its localization within muscle cells is primarily cytoplasmic, closely associated with myofibrils and sarcomeric structures where contractile proteins are organized. This makes MYL1 a valuable marker for studying muscle differentiation, regeneration, and structural organization.

In addition to its role in normal muscle physiology, MYL1 expression has been examined in contexts such as muscle injury, atrophy, and muscular disorders. Changes in MYL1 levels may reflect alterations in muscle fiber composition or functional state. Its presence in developing muscle tissue also supports its use as a marker for myogenesis and skeletal muscle maturation.

The specificity of MYL1 expression to fast skeletal muscle fibers distinguishes it from other myosin light chain isoforms that are expressed in cardiac or smooth muscle. Detection of MYL1 provides insight into muscle fiber identity, contractile function, and structural integrity, supporting the use of a MYL1 Antibody in studies of skeletal muscle biology and disease.

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

Application Notes

The stated application concentrations are suggested starting points. Titration of the MYL1 Antibody / Fast Skeletal Muscle Myosin Light Chain Marker may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 101-135 from human MYL1 was used as the immunogen for the MYL1 antibody.

Storage

Aliquot the MYL1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

MYL1 antibody, Myosin light chain 1 antibody, Myosin alkali light chain 1 antibody, Fast skeletal muscle MLC1 antibody, ML1 antibody

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