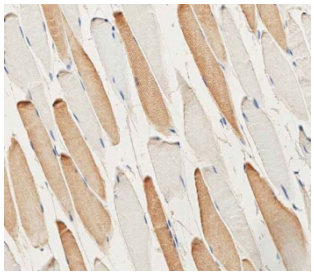
Myosin Light Chain 2 Antibody / MLC2 Polyclonal Antibody (F54326)

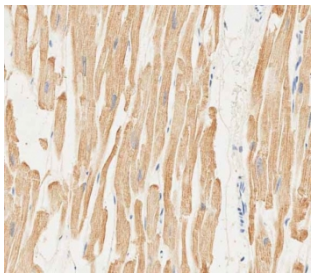
Catalog No.	Formulation	Size
F54326-0.2ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.2 ml
F54326-0.05ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.05 ml

Bulk quote request

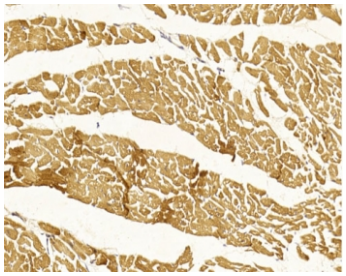
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity purified
UniProt	P10916
Localization	Cytoplasmic
Applications	Western blot: 1:500-1:2000 Flow cytometry: 1:25 (1x10e6 cells) Immunohistochemistry (FFPE): 1:25
Limitations	This Myosin Light Chain 2 Antibody / MLC2 Polyclonal Antibody is available for research use only.



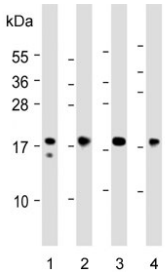
Myosin Light Chain 2 Antibody by IHC in Human Skeletal Muscle Immunohistochemistry of FFPE human skeletal muscle sections using Myosin Light Chain 2 Antibody. Strong cytoplasmic staining is observed within skeletal muscle fibers, with nuclei remaining largely unstained. This MLC2 Polyclonal Antibody demonstrates a distinct muscle fiber-associated staining pattern. Sections underwent heat-induced epitope retrieval in pH 6 citrate buffer before staining.



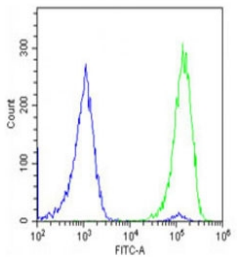
Myosin Light Chain 2 Antibody by IHC in Human Heart Immunohistochemistry of FFPE human heart sections using Myosin Light Chain 2 Antibody. Cytoplasmic staining is visible throughout cardiac muscle fibers, consistent with the localization of MYL2 within the contractile apparatus of cardiomyocytes. This MLC2 Polyclonal Antibody produces widespread labeling of myocardial fibers with comparatively limited nuclear staining. Sections underwent heat-induced epitope retrieval in pH 6 citrate buffer before staining.



Myosin Light Chain 2 Antibody by IHC in Human Myocardium Immunohistochemistry of FFPE human myocardium sections using Myosin Light Chain 2 Antibody. Strong, widespread cytoplasmic staining is evident throughout the myocardial fibers, clearly delineating the muscle architecture. The robust fiber-associated labeling produced by this MLC2 Polyclonal Antibody is consistent with abundant MYL2 expression in cardiac contractile tissue. Sections underwent heat-induced epitope retrieval in pH 6 citrate buffer before staining.



Myosin Light Chain 2 Antibody by WB in Heart and Skeletal Muscle Western blot testing of Myosin Light Chain 2 Antibody with human heart (lane 1), human skeletal muscle (lane 2), mouse heart (lane 3) and rat heart (lane 4) lysates. This MLC2 Polyclonal Antibody detects a strong, predominant band at approximately 19 kDa in all four samples, consistent with the predicted molecular weight of MYL2. The clean target-sized signal across human, mouse and rat samples supports detection of MYL2 in multiple species.



Myosin Light Chain 2 Antibody by FACS in U-2 OS Cells Flow cytometry testing of fixed and permeabilized human U-2 OS cells using Myosin Light Chain 2 Antibody. The MLC2 Polyclonal Antibody produces a pronounced rightward fluorescence shift relative to the isotype control, demonstrating robust detection of MYL2 in the tested cells.

Description

Myosin Light Chain 2 Antibody detects myosin regulatory light chain 2, a contractile protein encoded by the MYL2 gene and commonly referred to as MLC2 or MLC-2v. MYL2 is a regulatory light chain associated with the neck region of myosin heavy chains in striated muscle. It contributes to the structural and functional properties of the myosin motor and has a particularly important role in cardiac muscle, where regulation of actomyosin interactions is essential for normal contraction.

MYL2 participates in the control of cardiac contractility through phosphorylation-dependent modulation of myosin function. Phosphorylation of the regulatory light chain can increase myosin lever-arm stiffness and influence the positioning and mobility of myosin heads relative to actin. These effects alter cross-bridge cycling and can increase calcium sensitivity and contractile force, providing a mechanism through which cardiac muscle fine-tunes mechanical output in response to physiological demands.

In addition to regulating mature cardiac contraction, MYL2 contributes to heart development and organization of the contractile apparatus. During cardiogenesis, myosin light chain 2 participates in cardiac myofibril assembly and the establishment of effective contractile activity. Its expression is closely associated with differentiated cardiomyocytes, making MYL2 an important subject in studies of cardiac development, muscle differentiation and cardiomyocyte biology.

Genetic alterations in MYL2 have been associated with inherited cardiomyopathies, including hypertrophic and dilated forms of disease. Changes affecting the structure, abundance or phosphorylation state of MYL2 can disturb sarcomere mechanics and alter the relationship between calcium signaling and force generation. Research on MYL2 therefore provides insight into how abnormalities of individual sarcomeric proteins can influence cardiac performance and contribute to pathological remodeling.

Because MYL2 connects sarcomere structure with dynamic regulation of myosin activity, it is useful for studies of muscle contraction, myofilament calcium sensitivity, cardiac development and mechanisms underlying cardiomyopathy. NSJ Bioreagents offers this MLC2 Polyclonal Antibody for research into MYL2 expression and associated contractile pathways. A Myosin Light Chain 2 Antibody can support investigation of cardiac and skeletal muscle biology, sarcomere function and regulation of actomyosin-dependent contraction.

Explore additional research tools in our Signal Transduction Antibodies collection.

Application Notes

The stated application concentrations are suggested starting points. Titration of the Myosin Light Chain 2 Antibody / MLC2 Polyclonal Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 42-75 from the human protein was used as the immunogen for the Myosin Light Chain 2 antibody.

Storage

Aliquot the Myosin Light Chain 2 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

MYL2 antibody, MLC2 antibody, Myosin Regulatory Light Chain 2 antibody, Myosin Light Chain 2V antibody, MLC-2v antibody, Ventricular Myosin Light Chain 2 antibody

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