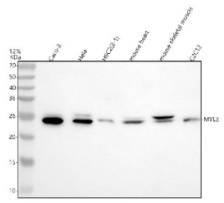
MYL3 Antibody / Myosin light chain 3 (FY13160)

Catalog No.	Formulation	Size
FY13160	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P08590
Applications	Western Blot : 0.25-0.5ug/ml
Limitations	This MYL3 antibody is available for research use only.



Western blot analysis of MYL3 using anti-MYL3 antibody. Lane 1: human Caco-2 whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human H9C2(2-1) whole cell lysates, Lane 4: mouse heart tissue lysates, Lane 5: mouse skeletal muscle tissue lysates, Lane 6: mouse C2C12 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-MYL3 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. MYL3 antibody detects a band at ~24-25 kDa, often appearing as a doublet consistent with phosphorylation of the essential myosin light chain (predicted 22 kDa).

Description

MYL3 antibody detects Myosin light chain 3, a contractile protein component of cardiac and skeletal muscle that modulates actin-myosin interactions during muscle contraction. The UniProt recommended name is Myosin light chain 3 (MYL3). This protein binds to myosin heavy chains and contributes to force generation and sarcomere stability in striated muscle fibers.

Functionally, MYL3 antibody identifies a 151-amino-acid calcium-binding protein localized to the myofilament's thick filament region. MYL3 interacts with the myosin heavy chain alpha isoform and regulates actomyosin ATPase activity through conformational changes induced by calcium binding. It plays a key role in sarcomere assembly, contractile force regulation, and muscle fiber maintenance.

The MYL3 gene is located on chromosome 3p21.31 and is expressed predominantly in ventricular cardiac tissue and slow-twitch skeletal muscles. MYL3 is essential for normal heart contractility and mechanical stability under physiological stress.

Pathologically, mutations in MYL3 cause familial hypertrophic cardiomyopathy and restrictive cardiomyopathy by altering calcium binding and myosin-actin interactions. Defects in MYL3 impair contractile performance and promote myofibrillar disarray. Research using MYL3 antibody supports studies in cardiac physiology, muscle biochemistry, and hereditary myopathies.

MYL3 antibody is validated for western blotting, immunohistochemistry, and immunofluorescence to detect sarcomeric proteins. NSJ Bioreagents provides MYL3 antibody reagents optimized for research in cardiomyocyte biology, muscle contraction, and structural myopathy studies.

Structurally, Myosin light chain 3 belongs to the EF-hand superfamily and contains two calcium-binding motifs that regulate its conformational changes and interaction with myosin. This antibody aids analysis of MYL3's role in cardiac contractility and muscle development.

Application Notes

Optimal dilution of the MYL3 antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human MYL3 was used as the immunogen for the MYL3 antibody.

Storage

After reconstitution, the MYL3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.