

Myosin Light Chain 2v (D5I1C) (Cardiac Isoform) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	M R	Endogenous	20	Rabbit IgG	#P51667	17906

Product Usage Information**Application**

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Myosin Light Chain 2v (D5I1C) (Cardiac Isoform) Rabbit mAb recognizes endogenous levels of total myosin light chain 2v (cardiac isoform) protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of mouse myosin light chain 2v (cardiac isoform) protein.

Background

Myosin is composed of six polypeptide chains: two identical heavy chains and two pairs of light chains. Myosin light chain 2 (MLC2), also known as myosin regulatory light chain (MRLC), RLC, or LC20, has many isoforms with varying tissue distribution. Smooth muscle MLC2 is phosphorylated at Thr18 and Ser19 by myosin light chain kinase (MLCK) in a Ca²⁺/calmodulin-dependent manner (1). These phosphorylation events are correlated with myosin ATPase activity and smooth muscle contraction (2). Striated muscle contraction is regulated by the troponin-tropomyosin complex in thin actin filaments and by binding of Ca²⁺ to troponin C (3). Two types of myosin light chain are expressed in the heart, with myosin light chain 2v (MYL2, MLC-2v) expression restricted to the ventricles and myosin light chain 2a (MYL7, MLC-2a) found specific to the atria. Mutations in the corresponding *MYL2* gene are found in patients diagnosed with a form of hypertrophic cardiomyopathy characterized by thickening of the mid-left ventricle.

Background References

- Ikebe, M. and Hartshorne, D.J. (1985) *J Biol Chem* 260, 10027-31.
- Tan, J.L. et al. (1992) *Annu Rev Biochem* 61, 721-59.
- Tsukamoto, O. and Kitakaze, M. (2013) *Circ J* 77, 2218-25.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

M: Mouse **R:** Rat

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