Revision 1

Store at -20C

#9776

Myosin Light Chain 2 Antibody Sampler Kit

1 Kit (3 x 20 microliters)

Cell Signaling TECHNOLOGY®

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Phospho-Myosin Light Chain 2 (Ser19) Antibody	3671	20 µl	18 kDa	Rabbit
Phospho-Myosin Light Chain 2 (Thr18/Ser19) Antibody	3674	20 µl	18 kDa	Rabbit
Myosin Light Chain 2 (D18E2) Rabbit mAb	8505	20 µl	18 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Myosin Light Chain 2 Antibody Sampler Kit provides an economical means to detect total, phosphorylated, and dual-phosphorylated myosin light chain 2. The kit contains enough primary and secondary antibody to perform two western blot experiments.

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.

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 depending on its distribution. In smooth muscle, MLC2 is phosphorylated at Thr18 and Ser19 by myosin light chain kinase (MLCK) in a Ca^{2+}/calmodulin-dependent manner (1). This phosphorylation is correlated with myosin ATPase activity and smooth muscle contraction (2). ROCK also phosphorylates Ser19 of smooth muscle MLC2, which regulates the assembly of stress fibers (3). Phosphorylation of smooth muscle MLC2 at Ser1/Ser2 and Ser9 by PKC and cdc2 has been reported to inhibit myosin ATPase activity (4,5). Phosphorylation by cdc2 controls the timing of cytokinesis (5). Transgenic mice lacking phosphorylation sites on the cardiac muscle isoform show morphological and functional abnormalities (6).

Background References

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4. Ikebe, M. et al. (2000) *J. Biol. Chem.* 262, 9569-9573.
5. Satterwhite, L. L. et al. (1992) *J. Cell Biol.* 118, 595-605.
6. Sanbe, A. et al. (1999) *J. Biol. Chem.* 274, 21085-21094.

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