

phospho-Myosin Regulatory Light Chain (Ser-1) Peptide

Cat. # MX3465

Size 50 µg

Background:

Both smooth muscle and non-muscle myosin II activity is regulated by the phosphorylation state of the myosin regulatory light chain (MLC, MRLC, MLC20, Myl9). Phosphorylation of MLC at Thr-18 and Ser-19 activates myosin II motor activity and increases myosin filament stability. This activation has important roles in various cell motile processes. By contrast, other phosphorylation sites on MLC may inhibit myosin II activity. PKC phosphorylates Ser-1/Ser-2 and Thr-9 in MLC, and this phosphorylation decreases activated myosin II interaction with actin, as well as inhibits MLC interaction with the activation site kinase, myosin light-chain kinase. The Ser-1/Ser-2 region may be the major inhibitory site since Ser-1 is phosphorylated during PDGF-induced stress fiber disassembly and expression of unphosphorylatable MLC20 at the Ser-1/Ser-2 site suppresses this disassembly. Thus, inhibition of myosin II activity through phosphorylation of Ser-1/Ser-2 may have important roles in growth factor-induced reorganization of actomyosin filaments.

References

Sellers, J.R. (1991) *Curr. Opin. Cell Biol.* 3:98.
Tan, J.L. et al. (1992) *Annu. Rev. Biochem.* 61:721.
Komatsu, S. & Ikebe, M. (2007) *Mol. Biol. Cell* 18:5081.

Peptide Sequence:

Phospho-MLC (Ser-1) synthetic peptide corresponding to amino acid residues surrounding serine 1 in bovine myosin regulatory light chain 9 (Myl9). This peptide sequence is highly conserved in human, rat, and mouse Myl9, and has high homology to the conserved site in other smooth muscle and non-muscle MLCs.

Buffer and Storage:

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

Applications:

Blocking 1:1000

ELISA 50 ng/well

End user should determine optimal concentration dependent on the concentration of the antibody.
Recommended for blocking antibody reactivity in Western blot and immunocytochemistry.
ELISA established in 96-well Nunc immunoplates where peptide was bound to plates for 2 hrs in 0.1 M sodium carbonate buffer, pH 8.5.

Specificity:

The peptide is specifically recognized by myosin regulatory light chain (Ser-1), phospho-specific antibody (MP3461) in ELISA, and has been shown to block the reactivity of MP3461 in Western blot. In addition, the peptide is recommended for use in blocking MP3461 reactivity in immunocytochemistry.

Related Products:

MP3461 Myosin Regulatory Light Chain (Ser-1), phospho-specific [Conserved]
MM3441 Myosin Regulatory Light Chain (MLC20) Mouse Monoclonal
AK6060 Actin & Tubulin Antibody Sampler Kit
AP1671 Actin (Tyr-53), phospho-specific Rabbit Polyclonal
RM2741 ROCK-I (C-terminal), cleavage-specific Mouse Monoclonal
RP1361 RhoA (Ser-188), phospho-specific Rabbit Polyclonal

FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

www.ecmbiosciences.com
telephone: 859-879-2075
toll-free: 1-800-859-8202
email: info@ecmbiosciences.com

ECMBiosciences

Rev 6/12/2009