

## ARG41503 anti-MYLK antibody

Package: 100 µl  
Store at: -20°C

### Summary

Product Description	Rabbit Polyclonal antibody recognizes MYLK
Tested Reactivity	Hu, Ms, Rat
Tested Application	FACS, ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	MYLK
Species	Human
Immunogen	Synthetic peptide of Human MYLK.
Conjugation	Un-conjugated
Alternate Names	EC 2.7.11.18; Myosin light chain kinase, smooth muscle; AAT7; MLCK; KRP; Kinase-related protein; MYLK1; MLCK1; MSTP083; MLCK108; smMLCK; Telokin; MLCK210

### Application Instructions

Application table	Application	Dilution
	FACS	1:50
	ICC/IF	1:50 - 1:200
	IHC-P	1:50 - 1:200
	WB	1:500 - 1:2000
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	
Positive Control	HUVEC	
Observed Size	~ 130 kDa	

### Properties

Form	Liquid
Purification	Affinity purified.
Buffer	PBS (pH 7.4), 150 mM NaCl, 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw

cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

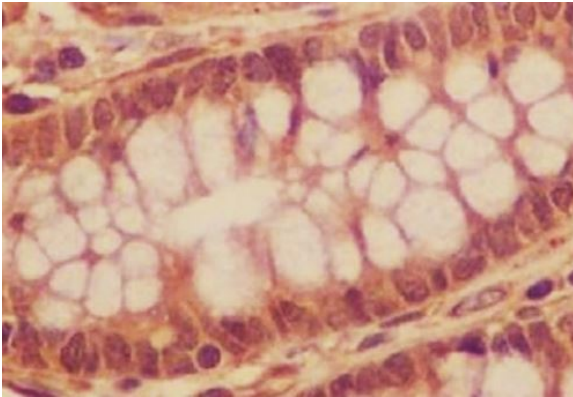
**Note**

For laboratory research only, not for drug, diagnostic or other use.

## Bioinformation

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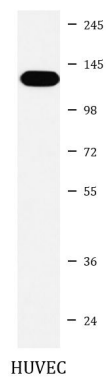
Gene Symbol	MYLK
Gene Full Name	myosin light chain kinase
Background	<p>This gene, a muscle member of the immunoglobulin gene superfamily, encodes myosin light chain kinase which is a calcium/calmodulin dependent enzyme. This kinase phosphorylates myosin regulatory light chains to facilitate myosin interaction with actin filaments to produce contractile activity. This gene encodes both smooth muscle and nonmuscle isoforms. In addition, using a separate promoter in an intron in the 3' region, it encodes telokin, a small protein identical in sequence to the C-terminus of myosin light chain kinase, that is independently expressed in smooth muscle and functions to stabilize unphosphorylated myosin filaments. A pseudogene is located on the p arm of chromosome 3. Four transcript variants that produce four isoforms of the calcium/calmodulin dependent enzyme have been identified as well as two transcripts that produce two isoforms of telokin. Additional variants have been identified but lack full length transcripts. [provided by RefSeq, Jul 2008]</p>
Function	<p>Calcium/calmodulin-dependent myosin light chain kinase implicated in smooth muscle contraction via phosphorylation of myosin light chains (MLC). Also regulates actin-myosin interaction through a non-kinase activity. Phosphorylates PTK2B/PYK2 and myosin light-chains. Involved in the inflammatory response (e.g. apoptosis, vascular permeability, leukocyte diapedesis), cell motility and morphology, airway hyperreactivity and other activities relevant to asthma. Required for tonic airway smooth muscle contraction that is necessary for physiological and asthmatic airway resistance. Necessary for gastrointestinal motility. Implicated in the regulation of endothelial as well as vascular permeability, probably via the regulation of cytoskeletal rearrangements. In the nervous system it has been shown to control the growth initiation of astrocytic processes in culture and to participate in transmitter release at synapses formed between cultured sympathetic ganglion cells. Critical participant in signaling sequences that result in fibroblast apoptosis. Plays a role in the regulation of epithelial cell survival. Required for epithelial wound healing, especially during actomyosin ring contraction during purse-string wound closure. Mediates RhoA-dependent membrane blebbing. Triggers TRPC5 channel activity in a calcium-dependent signaling, by inducing its subcellular localization at the plasma membrane. Promotes cell migration (including tumor cells) and tumor metastasis. PTK2B/PYK2 activation by phosphorylation mediates ITGB2 activation and is thus essential to trigger neutrophil transmigration during acute lung injury (ALI). May regulate optic nerve head astrocyte migration. Probably involved in mitotic cytoskeletal regulation. Regulates tight junction probably by modulating ZO-1 exchange in the perijunctional actomyosin ring. Mediates burn-induced microvascular barrier injury; triggers endothelial contraction in the development of microvascular hyperpermeability by phosphorylating MLC. Essential for intestinal barrier dysfunction. Mediates Giardia spp.-mediated reduced epithelial barrier function during giardiasis intestinal infection via reorganization of cytoskeletal F-actin and tight junctional ZO-1. Necessary for hypotonicity-induced Ca(2+) entry and subsequent activation of volume-sensitive organic osmolyte/anion channels (VSOAC) in cervical cancer cells. Responsible for high proliferative ability of breast cancer cells through anti-apoptosis. [UniProt]</p>
Calculated Mw	211 kDa
PTM	<p>Can probably be down-regulated by phosphorylation. Tyrosine phosphorylation by ABL1 increases kinase activity, reverses MLCK-mediated inhibition of Arp2/3-mediated actin polymerization, and enhances CTTN-binding. Phosphorylation by SRC at Tyr-464 and Tyr-471 promotes CTTN binding.</p> <p>The C-terminus is deglutamylated by AGTPBP1/CCP1, AGBL1/CCP4 and AGBL4/CCP6, leading to the formation of Myosin light chain kinase, smooth muscle, deglutamylated form. The consequences of C-terminal deglutamylation are unknown (By similarity).</p> <p>Acetylated at Lys-608 by NAA10/ARD1 via a calcium-dependent signaling; this acetylation represses kinase activity and reduces tumor cell migration. [UniProt]</p>
Cellular Localization	<p>Cytoplasm. Cell projection, lamellipodium. Cleavage furrow. Cytoplasm, cytoskeleton. Note=Localized to stress fibers during interphase and to the cleavage furrow during mitosis. [UniProt]</p>



ARG41503 anti-MYLK antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Human colon tissue stained with ARG41503 anti-MYLK antibody.

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ARG41503 anti-MYLK antibody WB image

Western blot: HUVEC cell lysate stained with ARG41503 anti-MYLK antibody.

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