

Anti-MLCK1 Antibody
Rabbit polyclonal antibody to MLCK1
Catalog # AP59630**Specification**

Anti-MLCK1 Antibody - Product Information

Application	WB
Primary Accession	Q15746
Other Accession	Q6PDN3
Reactivity	Human, Mouse, Rat, Rabbit, Monkey, Chicken, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	210715

Anti-MLCK1 Antibody - Additional Information**Gene ID** 4638**Other Names**

MLCK; MLCK1; MYLK1; Myosin light chain kinase, smooth muscle; MLCK; smMLCK; Kinase-related protein; KRP; Telokin

Target/Specificity

Recognizes endogenous levels of MLCK1 protein.

Dilution

WB~~WB (1/500 - 1/1000)

Format

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.

Storage

Store at -20 °C. Stable for 12 months from date of receipt

Anti-MLCK1 Antibody - Protein Information**Name** MYLK ([HGNC:7590](#))**Synonyms** MLCK, MLCK1, MYLK1**Function**

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.

Cellular Location

Cytoplasm. Cell projection, lamellipodium. Cleavage furrow. Cytoplasm, cytoskeleton, stress fiber. Note=Localized to stress fibers during interphase and to the cleavage furrow during mitosis

Tissue Location

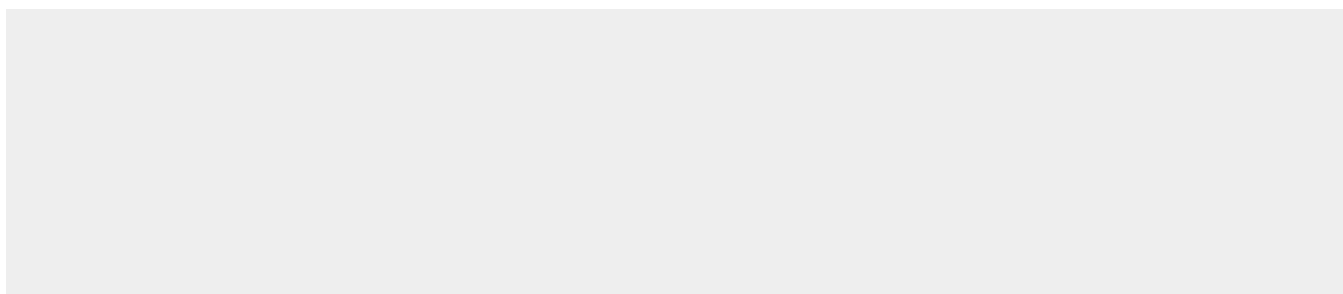
Smooth muscle and non-muscle isozymes are expressed in a wide variety of adult and fetal tissues and in cultured endothelium with qualitative expression appearing to be neither tissue- nor development-specific. Non-muscle isoform 2 is the dominant splice variant expressed in various tissues. Telokin has been found in a wide variety of adult and fetal tissues. Accumulates in well differentiated enterocytes of the intestinal epithelium in response to tumor necrosis factor (TNF).

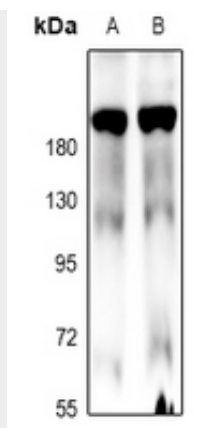
Anti-MLCK1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-MLCK1 Antibody - Images





Western blot analysis of MLCK1 expression in A549 (A), MCF7 (B) whole cell lysates.

Anti-MLCK1 Antibody - Background

KLH-conjugated synthetic peptide encompassing a sequence within the center region of human MLCK1. The exact sequence is proprietary.