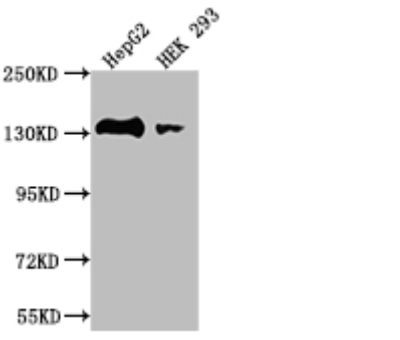
MYLK Recombinant Monoclonal Antibody

Product Code	CSB-RA145619A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	Q15746
Immunogen	A synthesized peptide derived from human MYLK
Species Reactivity	Human
Tested Applications	ELISA, WB, FC; Recommended dilution: WB:1:500-1:2000, FC:1:50-1:200
Relevance	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. {ECO:0000269|PubMed:11113114, ECO:0000269|PubMed:11976941, ECO:0000269|PubMed:15020676, ECO:0000269|PubMed:15825080, ECO:0000269|PubMed:16284075, ECO:0000269|PubMed:16723733, ECO:0000269|PubMed:18587400, ECO:0000269|PubMed:18710790, ECO:0000269|PubMed:19826488, ECO:0000269|PubMed:20139351, ECO:0000269|PubMed:20181817,

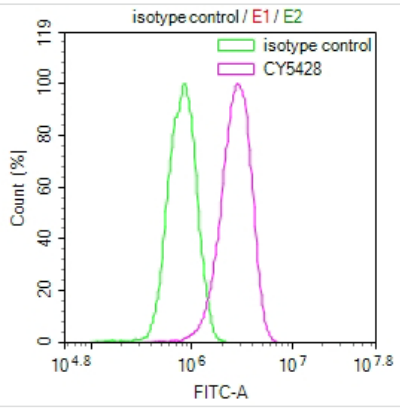
ECO:0000269|PubMed:20375339, ECO:0000269|PubMed:20453870}.

Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Signal transduction
Gene Names	MYLK
Clone No.	28C5

Image



Western Blot
Positive WB detected in: HepG2 whole cell lysate, HEK293 whole cell lysate
All lanes: MYLK antibody at 1:2000
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 211, 204, 206, 198, 203, 111, 17, 81 kDa
Observed band size: 130-250 kDa



Overlay Peak curve showing A549 cells stained with CSB-RA965615A0HU (red line) at 1:100. The cells were fixed in 4% formaldehyde and permeated by 0.2% TritonX-100. Then 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (1ug/1*10^6cells) for 45min at 4?. The secondary antibody used was FITC-conjugated Goat Anti-rabbit IgG(H+L) at 1:200 dilution for 35min at 4?.Control antibody (green line) was rabbit IgG (1ug/1*10^6cells) used under the same conditions. Acquisition of >10,000 events was performed.

Description

The production of the MYLK recombinant monoclonal antibody involves a meticulous and standardized process to ensure its quality and specificity. Firstly, B cells are isolated from an immunized animal using the synthesized peptide derived from human MYLK as the immunogen. Next, total RNA is extracted from the isolated B cells, followed by cDNA synthesis through reverse transcription. The MYLK antibody genes are then amplified using PCR with primers specific to the antibody constant regions and inserted into an expression vector. This

expression vector is introduced into host cells, allowing for the production of the MYLK recombinant monoclonal antibody. The antibody is harvested from the cell culture supernatant and purified using affinity chromatography, resulting in a highly purified preparation. Rigorous characterization assays, including ELISA, WB, and FC analysis, are performed to validate the antibody's specificity and functionality, ensuring its accurate binding to human MYLK protein.