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MYLK3 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7965A

Product Information

Application	WB, IHC-P, E
Primary Accession	Q32MK0
Other Accession	Q96DV1
Reactivity	Human, Mouse
Predicted	Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	88393
Antigen Region	40-69

Additional Information

Gene ID	91807
Other Names	Myosin light chain kinase 3, Cardiac-MyBP-C-associated Ca/CaM kinase, Cardiac-MLCK, MYLK3, MLCK
Target/Specificity	This MYLK3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 40-69 amino acids from the N-terminal region of human MYLK3.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MYLK3 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MYLK3 (HGNC:29826)
Synonyms	MLCK
Function	Kinase that phosphorylates MYL2 in vitro (By similarity). Has been proposed

	to be calmodulin-dependent, although MYL2 phosphorylation has also been observed in the presence or absence of calmodulin (By similarity). Promotes sarcomere formation in cardiomyocytes and increases cardiomyocyte contractility (By similarity).
Cellular Location	Cytoplasm {ECO:0000250|UniProtKB:Q3UIZ8}.
Tissue Location	Restricted to heart..

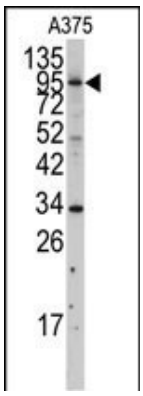
Background

MLCK, a member of the Ser/Thr protein kinase family, is a calcium/calmodulin-dependent enzyme responsible for smooth muscle contraction via phosphorylation of a specific serine in the N-terminus of myosin light chains (MLC), an event that facilitates myosin interaction with actin filaments. It is a central determinant in the development of vascular permeability and tissue edema formation. 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. MLCK acts as a critical participant in signaling sequences that result in fibroblast apoptosis. 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. The Telokin isoform, which binds calmodulin, has been found in a wide variety of adult and fetal tissues. MLCK is probably down-regulated by phosphorylation. The protein contains 1 fibronectin type III domain and 9 immunoglobulin-like C2-type domains.

References

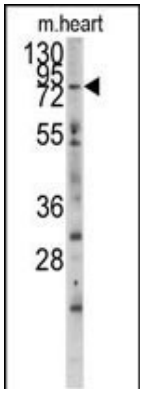
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Images

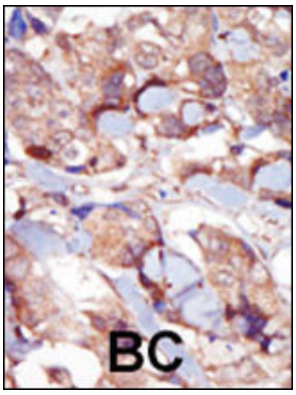


Western blot analysis of anti-MYLK3 Antibody (N-term) (Cat. #AP7965a) in A375 cell line lysates (35ug/lane). MYLK3 (arrow) was detected using the purified Pab.

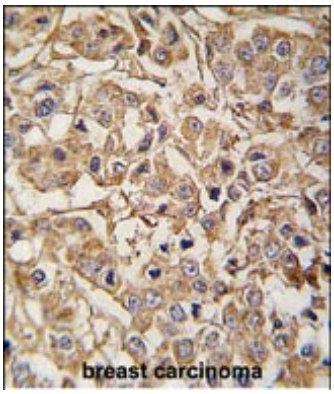
Western blot analysis of anti-MYLK3 Antibody (N-term) (Cat. #AP7965a) in mouse heart tissue lysates (35ug/lane). MYLK3(arrow) was detected using the



purified Pab.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Formalin-fixed and paraffin-embedded human breast carcinoma tissue reacted with MYLK3 antibody (N-term) (Cat.#AP7965a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Citations

- null C57BL/6J mice do not
- Interferon Stimulated Gene 15 upregulation precedes the development of blood brain barrier disruption and cerebral edema after traumatic brain injury in young mice.
- Cardiac-Directed Expression of Adenylyl Cyclase Catalytic Domain Reverses Cardiac Dysfunction Caused by Sustained Beta-Adrenergic Receptor Stimulation.
- Albumin causes increased myosin light chain kinase expression in astrocytes via p38 mitogen-activated protein kinase.

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