

Anti-LIMK1 Antibody

Rabbit polyclonal antibody to LIMK1

Catalog # AP59606

Product Information

Application	WB, IF/IC
Primary Accession	P53667
Other Accession	P53668
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	72585

Additional Information

Gene ID	3984
Other Names	LIMK; LIM domain kinase 1; LIMK-1
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human LIMK1. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000), IF/IC (1/100 - 1/500) IF/IC~~N/A
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

Protein Information

Name	LIMK1
Synonyms	LIMK
Function	Serine/threonine-protein kinase that plays an essential role in the regulation of actin filament dynamics. Acts downstream of several Rho family GTPase signal transduction pathways (PubMed: 10436159 , PubMed: 11832213 , PubMed: 12807904 , PubMed: 15660133 , PubMed: 16230460 , PubMed: 18028908 , PubMed: 22328514 , PubMed: 23633677). Activated by upstream kinases including ROCK1, PAK1 and PAK4, which phosphorylate LIMK1 on a threonine residue located in its activation loop (PubMed: 10436159). LIMK1 subsequently phosphorylates and inactivates the actin binding/depolymerizing factors cofilin-1/CFL1, cofilin-2/CFL2 and destrin/DSTN, thereby preventing the cleavage of filamentous actin (F-actin), and stabilizing the actin cytoskeleton (PubMed: 11832213 , PubMed: 15660133 , PubMed: 16230460 , PubMed: 23633677). In this way LIMK1 regulates several

actin-dependent biological processes including cell motility, cell cycle progression, and differentiation (PubMed:[11832213](#), PubMed:[15660133](#), PubMed:[16230460](#), PubMed:[23633677](#)). Phosphorylates TPPP on serine residues, thereby promoting microtubule disassembly (PubMed:[18028908](#)). Stimulates axonal outgrowth and may be involved in brain development (PubMed:[18028908](#)).

Cellular Location

Cytoplasm. Nucleus. Cytoplasm, cytoskeleton. Cell projection, lamellipodium {ECO:0000250|UniProtKB:P53668} Note=Predominantly found in the cytoplasm. Localizes in the lamellipodium in a CDC42BPA, CDC42BPB and FAM89B/LRAP25-dependent manner. {ECO:0000250|UniProtKB:P53668}

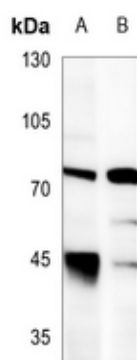
Tissue Location

Highest expression in both adult and fetal nervous system. Detected ubiquitously throughout the different regions of adult brain, with highest levels in the cerebral cortex. Expressed to a lesser extent in heart and skeletal muscle

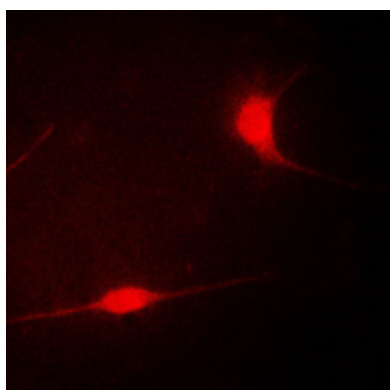
Background

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Images



Western blot analysis of LIMK1 expression in U87MG (A), HEK293T (B) whole cell lysates.



Immunofluorescent analysis of LIMK1 staining in COLO205 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS at room temperature in the dark.

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