

# Phospho-LIMK1(Thr508)) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP3745a

## Product Information

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Application	DB, E
Primary Accession	<a href="#">P53667</a>
Other Accession	<a href="#">NP_002305.1</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB28259
Calculated MW	72585

## Additional Information

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Gene ID	3984
Other Names	LIM domain kinase 1, LIMK-1, LIMK1, LIMK
Target/Specificity	This LIMK1 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding Thr508 of human LIMK1.
Dilution	DB~~1:500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	Phospho-LIMK1(Thr508)) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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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: <a href="#">10436159</a> , PubMed: <a href="#">11832213</a> ,

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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There are approximately 40 known eukaryotic LIM proteins, so named for the LIM domains they contain. LIM domains are highly conserved cysteine-rich structures containing 2 zinc fingers. Although zinc fingers usually function by binding to DNA or RNA, the LIM motif probably mediates protein-protein interactions. LIM kinase-1 and LIM kinase-2 belong to a small subfamily with a unique combination of 2 N-terminal LIM motifs and a C-terminal protein kinase domain. LIMK1 is likely to be a component of an intracellular signaling pathway and may be involved in brain development. LIMK1 hemizygosity is implicated in the impaired visuospatial constructive cognition of Williams syndrome. [provided by RefSeq].

## References

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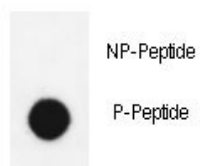
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 Borensztajn, K., et al. Thromb. Res. 125 (6), E323-E328 (2010) :  
 Saxena, M., et al. J Cancer Res Ther 6(2):167-171(2010)  
 Mishima, T., et al. Biochem. Biophys. Res. Commun. 392(4):577-581(2010)  
 Jugessur, A., et al. PLoS ONE 5 (7), E11493 (2010) :

## Images

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Dot blot analysis of anti-Phospho-LIMK1 (Thr508) antibody Phospho-specific Pab (Cat. #AP3745a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.6ug per ml.

P-Pab



## Dot Blot

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.