

# LIMK-1 (phospho Thr508) Polyclonal Antibody

Catalog # AP67093

## Product Information

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<b>Application</b>	WB, IHC-P, IF, ICC, E
<b>Primary Accession</b>	<a href="#">P53667</a>
<b>Reactivity</b>	Human, Mouse, Rat
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Calculated MW</b>	72585

## Additional Information

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<b>Gene ID</b>	3984
<b>Other Names</b>	LIMK1; LIMK; LIM domain kinase 1; LIMK-1
<b>Dilution</b>	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/10000. Not yet tested in other applications. IHC-P~~N/A IF~~1:50-200 ICC~~N/A E~~N/A
<b>Format</b>	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
<b>Storage Conditions</b>	-20°C

## Protein Information

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<b>Name</b>	LIMK1
<b>Synonyms</b>	LIMK
<b>Function</b>	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: <a href="#">12807904</a> , PubMed: <a href="#">15660133</a> , PubMed: <a href="#">16230460</a> , PubMed: <a href="#">18028908</a> , PubMed: <a href="#">22328514</a> , PubMed: <a href="#">23633677</a> ). Activated by upstream kinases including ROCK1, PAK1 and PAK4, which phosphorylate LIMK1 on a threonine residue located in its activation loop (PubMed: <a href="#">10436159</a> ). LIMK1 subsequently phosphorylates and inactivates the actin binding/depolymerizing factors cofilin-1/CFL1, cofilin-2/CFL2 and destin/DSTN, thereby preventing the cleavage of filamentous actin (F-actin), and stabilizing the actin cytoskeleton (PubMed: <a href="#">11832213</a> , PubMed: <a href="#">15660133</a> , PubMed: <a href="#">16230460</a> , PubMed: <a href="#">23633677</a> ). In this way LIMK1 regulates several actin-dependent biological processes including cell motility, cell cycle progression, and differentiation (PubMed: <a href="#">11832213</a> , PubMed: <a href="#">15660133</a> , PubMed: <a href="#">16230460</a> , PubMed: <a href="#">23633677</a> ). 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}

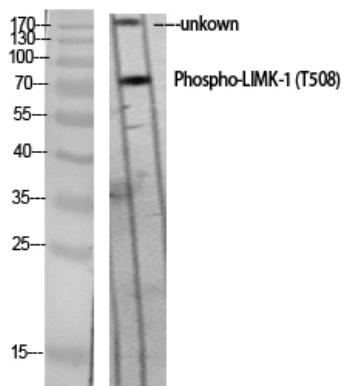
## Tissue Location

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

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. Activated by upstream kinases including ROCK1, PAK1 and PAK4, which phosphorylate LIMK1 on a threonine residue located in its activation loop. LIMK1 subsequently phosphorylates and inactivates the actin binding/depolymerizing factors cofilin-1/CFL1, cofilin-2/CFL2 and destin/DSTN, thereby preventing the cleavage of filamentous actin (F-actin), and stabilizing the actin cytoskeleton. In this way LIMK1 regulates several actin-dependent biological processes including cell motility, cell cycle progression, and differentiation. Phosphorylates TPPP on serine residues, thereby promoting microtubule disassembly. Stimulates axonal outgrowth and may be involved in brain development. Isoform 3 has a dominant negative effect on actin cytoskeletal changes. Required for atypical chemokine receptor ACKR2-induced phosphorylation of cofilin (CFL1).

## Images

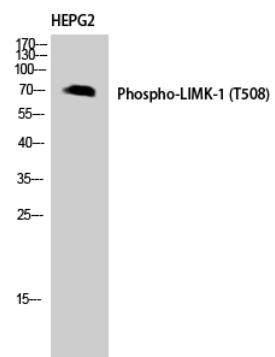


Western Blot analysis of various cells using Phospho-LIMK-1 (T508) Polyclonal Antibody diluted at 1 : 1000



Western Blot analysis of 293 cells using Phospho-LIMK-1 (T508) Polyclonal Antibody diluted at 1 : 1000

Western Blot analysis of HEPG2 using Phospho-LIMK-1 (T508) Polyclonal Antibody. Antibody was diluted at 1:1000



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