

ARG20527 anti-LIMK1 phospho (Thr508) antibody

Package: 50 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes LIMK1 phospho (Thr508)
Tested Reactivity	Hu, Ms, Rat
Tested Application	ELISA, WB
Specificity	This antibody was affinity purified using LIMK1 (Thr-508) peptide (without carrier). The antibody detects a ~72 kDa protein corresponding to the molecular mass of LIMK1 on SDS-PAGE immunoblots of activated mouse recombinant LIMK1, but does not detect this protein after lambda phosphatase treatment.
Host	Rabbit
Clonality	Polyclonal
Target Name	LIMK1
Species	Human
Immunogen	Phosphospecific peptide (coupled to carrier protein) around Thr508 of human LIMK1 protein. This sequence is conserved in rat and mouse LIMK1, and has high homology to Thr505 in human LIMK2.
Conjugation	Un-conjugated
Alternate Names	LIMK; EC 2.7.11.1; LIM domain kinase 1; LIMK-1

Application Instructions

Application table	Application	Dilution
	ELISA	1:2000
	WB	1:1000
Application Note	WB: Antibody is suggested to be diluted in 5% skimmed milk/Tris buffer with 0.04% Tween20 and incubated for 1 hour at room temperature. * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	

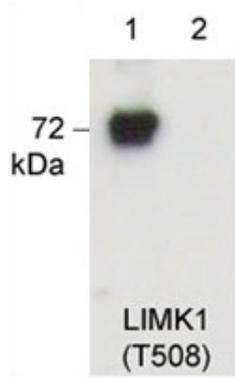
Properties

Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	PBS, 50% Glycerol, 1 mg/ml BSA, and 0.05% Sodium azide
Preservative	0.05% Sodium azide
Stabilizer	50% Glycerol, 1 mg/ml BSA
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Database links	GeneID: 16885 Mouse GeneID: 3984 Human Swiss-port # P53667 Human Swiss-port # P53668 Mouse
Gene Symbol	LIMK1
Gene Full Name	LIM domain kinase 1
Background	LIM kinases (LIMK1 and LIMK2) are serine/threonine kinases that have two zinc finger motifs, known as LIM motifs, in their amino-terminal regulatory domains. LIM kinases are involved in actin cytoskeletal regulation downstream of Rho-family GTPases, PAKs, and ROCK. PAK1 and ROCK phosphorylate LIMK1 or LIMK2 at the conserved Thr-508 or Thr-505 residues in the activation loop, increasing LIMK activity. In addition, VEGF-induced stress fiber formation has been linked to p38-mediated activation of LIMK through MK-2 phosphorylation of Ser-323. Activated LIM kinases inhibit the actin depolymerization activity of cofilin by phosphorylation at the amino-terminal Ser-3 residue of cofilin. In addition, LIMKs may have a function in the nucleus. It has been shown that the nuclear localization of LIMKs can mediate suppression of Rac/Cdc42-mediated cyclin D1 expression. This effect of LIMKs was independent of cofilin phosphorylation and the regulation of actin dynamics.
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. 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 destrin/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). [UniProt]
Research Area	Neuroscience antibody; Signaling Transduction antibody
Calculated Mw	73 kDa
PTM	Autophosphorylated (By similarity). Phosphorylated on Thr-508 by ROCK1 and PAK1, resulting in activation. Phosphorylated by PAK4 which increases the ability of LIMK1 to phosphorylate cofilin. Phosphorylated at Ser-323 by MAPKAPK2 during activation of VEGFA-induced signaling, which results in activation of LIMK1 and promotion of actin reorganization, cell migration, and tubule formation of endothelial cells. Dephosphorylated and inactivated by SSH1. Phosphorylated by CDC42BP. Ubiquitinated. 'Lys-48'-linked polyubiquitination by RNF6 leads to proteasomal degradation through the 26S proteasome, modulating LIMK1 levels in the growth cone and its effect on axonal outgrowth. Also polyubiquitinated by RLIM (By similarity).



ARG20527 anti-LIMK1 phospho (Thr508) antibody WB image

Western blot: activated Mouse recombinant LIMK1 protein 1) untreated or 2) treated with lambda phosphatase. The blots were stained with ARG20527 anti-LIMK1 phospho (Thr508) antibody.
