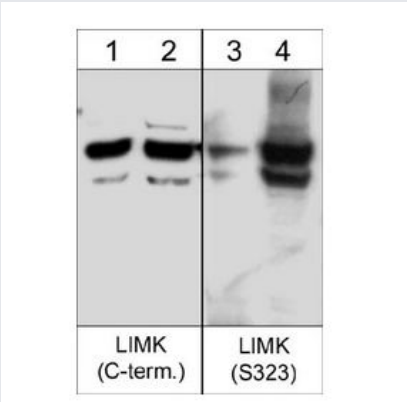
LIMK1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	LIMK1, Polyclonal Antibody
Full Product Name	LIMK1 (Ser-323)[LIMK2 (Ser-314)], phospho-specific Antibody
Product Gene Name	anti-LIMK1 antibody
Product Synonym Names	LIMK1 (Ser-323)[LIMK2 (Ser-314)], phospho-specific; LIMK1 323
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human, Rat, Mouse
Form/Format	Rabbit polyclonal, affinity-purified antibody is supplied in 100ul phosphate-buffered saline, 50% glycerol, 1mg/ml BSA, and 0.05% sodium azide.
Specificity	This antibody was cross-adsorbed to unphosphorylated LIMK1 (Ser-323) peptide then affinity purified using LIMK1 (Ser-323) peptide (without carrier). The antibody detects a protein with the same mobility as anti-LIMK1 (C-terminus, LP1831) in human A431 cells treated with calyculin A. This band is weak in control cells and is not detected after lambda phosphatase treatment.
Preparation and Storage	Store at -20 degree C. Stable for 1 year.
Molecular Weight	72,585 Da
Chromosome Location	Chromosome: 7; NC_000007.13 (73498107..73536855). Location: 7q11.23
OMIM	601329
3D Structure	ModBase 3D Structure for P53667
Immunogen	LIMK1 (Ser-323) synthetic peptide (coupled to carrier protein) corresponding to amino acids surrounding serine 323 in human LIMK1. This sequence is conserved in rat and mouse LIMK1, and has high homology to Ser-314 in human LIMK2.
Applications Tested/Suitable for anti-LIMK1 antibody	Western Blot (WB), ELISA (EIA)
Application Notes for anti-LIMK1 antibody	ELISA: 1:2000 WB: 1:1000
Related Product Information for anti-LIMK1 antibody	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.
Product References and Citations for anti-LIMK1 antibody	Kobayashi, M. et al. (2006) EMBOJ 25:713. Edwards, D. C. et al. (1999) Nat. Cell Biol. 1:253. Okano, I. et al. (1995) J. Biol. Chem. 270:31321.
Other Notes	Small volumes of anti-LIMK1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for LIMK1 purchase	MBS474420 is an antibody targeting LIMK1. Also known as LIMK1 (Ser-323)[LIMK2 (Ser-314)], phospho-specific Antibody. Reactive in Human, Rat, Mouse. Host: Rabbit.



Western Blot (WB) of anti-LIMK1 antibody
Western blot image of human A431 cells untreated (lanes 1 & 3) or treated (lanes 2 & 4)with calyculin A (100nM for 30 min). The blots were probed with anti-LIMK1 (C-terminus) (lanes 1 & 2) or anti-LIMK1 (Ser-323) (lanes 3 & 4).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for LIMK1. It may not necessarily be applicable to this product.

NCBI GI #	324715046
NCBI GeneID	3984
NCBI Accession #	NP_001191355.1
UniProt Primary Accession #	P53667
UniProt Secondary Accession #	O15283; Q15820; Q15821; Q75MU3; Q9Y5Q1; B7Z6I8; D3DXF4; D3DXF5
UniProt Related Accession #	P53667
GenBank Nucleotide #	NM_001204426.1
NCBI Official Full Name	LIM domain kinase 1 isoform 2
NCBI Official Synonym Full Names	LIM domain kinase 1
NCBI Official Symbol	LIMK1
NCBI Official Synonym Symbols	LIMK; LIMK-1
UniProt Protein Name	LIM domain kinase 1
Protein Family	LIM domain kinase
UniProt Gene Name	LIMK1
UniProt Synonym Gene Names	LIMK; LIMK-1
UniProt Entry Name	LIMK1_HUMAN
NCBI Protein Information	LIM domain kinase 1; LIM motif-containing protein kinase

NCBI Summary for LIMK1	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 a serine/threonine kinase that regulates actin polymerization via phosphorylation and inactivation of the actin binding factor cofilin. This protein is ubiquitously expressed during development and plays a role in many cellular processes associated with cytoskeletal structure. This protein also stimulates axon growth and may play a role in brain development. LIMK1 hemizygosity is implicated in the impaired visuospatial constructive cognition of Williams syndrome. Alternative splicing results in multiple transcript variants encoding distinct isoforms.[provided by RefSeq, Feb 2011]
UniProt Comments for LIMK1	LIMK1: a TKL kinase of the LISK family which mediates Rho signaling to cytoskeleton. Contains two N-terminal LIM motifs. Phosphorylated and activated by PAK1 and ROCK, downstream effectors of Rho. May be involved in brain development. Phosphorylates and inactivates the actin binding/depolymerizing factor cofilin and induces actin cytoskeletal changes. The LIM domain interacts with the cytoplasmic domain of NRG1. Binds ROCK1. Interacts with slingshot 1. Overexpressed in prostate tumors and prostate and breast cancer cell lines; manipulation of activity correlates with invasiveness in breast and prostate cancer models. Located within the 7q11.2 amplicon associated with metastatic prostate cancer. Loss of one copy of LIMK1 is the likely cause of visuospatial cognition defects seen in small chromosomal deletions associated with dominant Williams-Beuren syndrome Three splice variant have been identified. Protein type: Protein kinase, TKL; Kinase, protein; EC 2.7.11.1; Protein kinase, Ser/Thr (non-receptor); TKL group; LISK family; LIMK subfamily Chromosomal Location of Human Ortholog: 7q11.23 Cellular Component: nucleoplasm; neuron projection; focal adhesion; cytoplasm; cytosol Molecular Function: protein serine/threonine kinase activity; protein binding; zinc ion binding; protein heterodimerization activity; heat shock protein binding; ATP binding; protein kinase activity Biological Process: axon guidance; nervous system development; positive regulation of axon extension; positive regulation of stress fiber formation; negative regulation of ubiquitin-protein ligase activity; ephrin receptor signaling pathway; innate immune response; positive regulation of actin filament bundle formation; actin cytoskeleton organization and biogenesis; signal transduction; protein amino acid phosphorylation; Rho protein signal transduction Disease: Williams-beuren Syndrome
Research Articles on LIMK1	**1.** Overexpression of LIMK1 is associated with breast cancer growth and invasiveness.
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