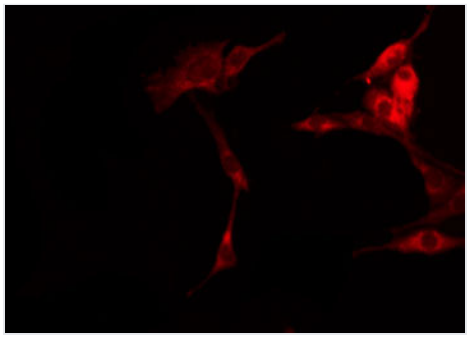
LIMK1 Antibody – Rabbit Polyclonal

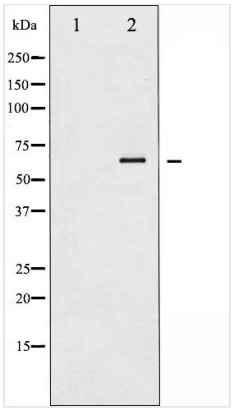
PRODUCT OVERVIEW

Product Name	LIMK1/2, Polyclonal Antibody
Full Product Name	LIMK1/2 Antibody
Product Gene Name	anti-LIMK1 antibody
Product Synonym Names	EC 2.7.11.1; LIM domain kinase 1; LIM motif-containing protein kinase; LIMK; LIMK-1; limk1; LIMK1_HUMAN
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Concentration	1mg/ml (lot specific)
Specificity	LIMK1/2 antibody detects endogenous levels of total LIMK1/2
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.
Antibody/Peptide Pairs	LIMK1/2 peptide (MBS9617466) is used for blocking the activity of LIMK1/2 antibody (MBS9601913)
Molecular Weight	Observed: 72 kDa Predicted: 73 kDa
3D Structure	ModBase 3D Structure for P53667
Supply Chain Verification	Manufactured in a lab with traceable raw materials manufactured on site. Coordinated product portfolio of antibodies, pairs, conjugates, recombinant proteins, and immunoassay materials available, please inquire.
Immunogen	A synthesized peptide derived from human LIMK1/2
Subcellular Location	Cytoplasm. Cell Projection > Growth Cone.
Tissue Specificity	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.
Predicted Cross Reactivity	**Pig, Bovine, Horse, Sheep, Rabbit, Dog, Chicken, Xenopus**
Similarity	Pig (100%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%), Chicken (100%), Xenopus (100%)
Conjugation	Unconjugated
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-LIMK1 antibody	Western Blot (WB), Immunohistochemisty (IHC), Immunofluorescence (IF), Immunocytochemistry (ICC), ELISA (EIA)
Application Notes for anti-LIMK1 antibody	WB: 1:500-1:2000 IHC: 1:50-1:200 IF/ICC: 1:100-1:500

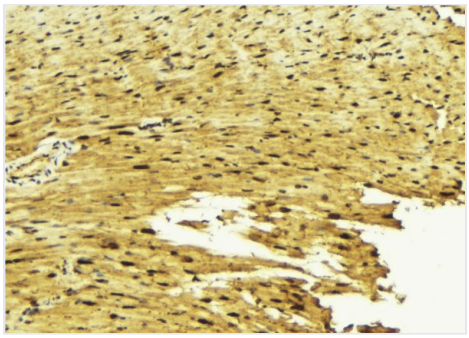
Related Product Information for anti-LIMK1 antibody	Description: There are approximately 40 known eukaryotic LIM proteins, so named for the LIM domains they contain. LIM domains are highly conserved cysteine-rich structures containing 2 zinc fingers. Although zinc fingers usually function by binding 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. Two splice variant have been identified. 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). Subunit Structure: Interacts (via LIM domain) with the cytoplasmic domain of NRG1. Interacts with NISCH. Interacts with RLIM and RNF6 (By similarity). Self-associates to form homodimers (PubMed:10196227). Interacts with HSP90AA1; this interaction promotes LIMK1 dimerization and subsequent transphosphorylation (PubMed:16641196). Interacts with CDKN1C (PubMed:14530263). Interacts with SSH1 (PubMed:15660133). Interacts with ROCK1 (PubMed:10436159, PubMed:10652353). Interacts (via LIM zinc-binding domains) with FAM89B/LRAP25 (via LRR repeat). Forms a tripartite complex with CDC42BPA, CDC42BPB and FAM89B/LRAP25 (By similarity). Post-translational Modifications: 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). Similarity: Belongs to the protein kinase superfamily. TKL Ser/Thr protein kinase family.
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	MBS9601913 is an antibody targeting LIMK1. Also known as LIMK1/2 Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit.



Immunofluorescence (IF) of anti-LIMK1 antibody
MBS9601913 staining NIH-3T3 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



Western Blot (WB) of anti-LIMK1 antibody
Western blot analysis of LIMK1/2 expression in COS7 whole cell lysates, The lane on the left is treated with the antigen-specific peptide.



Immunohistochemistry (IHC) of anti-LIMK1 antibody
MBS9601913 at 1/100 staining Mouse muscle tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

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
NCBI Protein Information	LIM domain kinase 1
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	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).
Research Articles on LIMK1	**1.** Once activated, c-Abl kinase regulated the activity of Vav1, which further affected Rac1/PAK1/LIMK1/cofilin signaling pathway.
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Product Note	Select online data sheet information is drawn from bioinformatics databases, occasionally resulting in ambiguous or non-relevant product information. It is the responsibility of the customer to review, verify, and evaluate the information to make sure it matches their requirements before purchasing the kit. Our ELISA Kit assays are dynamic research tools and sometimes they may be updated and improved. If the format of this assay is important to you then please request the current manual or contact our technical support team with a presales inquiry before placing an order. We will confirm the current details of the assay. We cannot guarantee the sample manual posted online is the most current manual, it is intended to serve as an example only. Please refer to the instructions For Use provided with the assay kit for precise details.

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