

# LIMK1 Antibody

Rabbit mAb Catalog # AP92026

### **Product Information**

Application WB Primary Accession P53667

**Reactivity** Rat, Human, Mouse

**Clonality** Monoclonal

Other Names LIM kinase; LIMK 1; LIMK;

IsotypeRabbit IgGHostRabbitCalculated MW72585

## **Additional Information**

**Dilution** WB 1:500~1:2000

**Purification** Affinity-chromatography

**Immunogen** A synthesized peptide derived from human LIM Kinase 1

**Description** Protein kinase which regulates actin filament dynamics. Phosphorylates and

inactivates the actin binding/depolymerizing factor cofilin, thereby stabilizing the actin cytoskeleton. Stimulates axonal outgrowth and may be involved in brain development. Isoform 3 has a dominant negative effect on actin

cytoskeletal changes.

Storage Condition and Buffer Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium

azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term.

Avoid freeze / thaw cycle.

#### **Protein Information**

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:10436159, PubMed:11832213,

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).

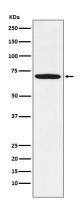
#### **Cellular Location**

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

## **Images**



Western blot analysis of LIM Kinase 1 expression in U-87MG cell lysate.

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