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Anti-LIM Kinase (RABBIT) Antibody

LIM Kinase Antibody
Catalog # ASR5297

Specification

Anti-LIM Kinase (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Mouse**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**This affinity purified antibody has been tested for use in ELISA and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 73 kDa in size corresponding to LIM kinase by western blotting in the appropriate cell lysate or extract.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to the C-terminal region near aa 620-647 of human LIM kinase protein.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-LIM Kinase (RABBIT) Antibody - Additional Information

Gene ID 3984

Other Names
3984

Purity
This affinity purified antibody is directed against human LIM kinase protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest reactivity with this protein from human, chimpanzee and orangutan based on 100% homology for the immunogen sequence. Expect cross reactivity with LIM kinase from mouse and rat sources as only a single amino acid residue change is found within the immunogen sequence (94% positive by BLAST). Cross reactivity with LIM kinase homologues from other sources has not been determined.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after

standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-LIM Kinase (RABBIT) Antibody - 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

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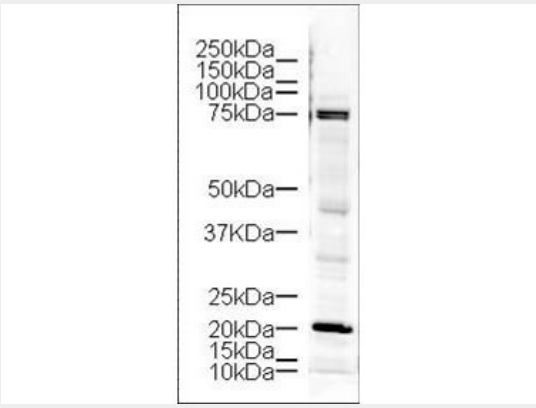
Anti-LIM Kinase (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-LIM Kinase (RABBIT) Antibody - Images



Western blot using Rockland's Affinity Purified anti-LIM Kinase antibody shows detection of a 73 kDa band corresponding to LIM kinase in lysates from mouse brain. Approximately 18 µg of lysate was run on a SDS-PAGE and transferred onto nitrocellulose followed by reaction with a 1:500 dilution of anti-LIM kinase antibody. The doublet band at ~75 kDa may represent phosphorylated and non-phosphorylated forms of the protein. The identity of the strong lower molecular weight band at approximately 20 kDa is unknown. Signal was detected using standard techniques.

Anti-LIM Kinase (RABBIT) Antibody - Background

LIM Kinase is also known as LIM-domain containing protein kinase, LIMK-1 and LIMK. 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.