ROCKLAND
Immunochemicals for Research

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**Product Specification Sheet**

**Product:** Affinity Purified Anti-LIM Kinase [Rabbit]

**Code**: 600-401-855 **Lot #:** 14796

**Size:** 100 μg **Physical State:** Liquid (sterile filtered)

**Antibody Concentration:** 1.0 mg/ml (by UV absorbance at 280 nm)

**Buffer:** 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

**Stabilizer:** None

**Preservative:** 0.01% (w/v) Sodium Azide

**Storage Conditions:** Store vial at -20° C prior to opening. Dilute only prior to immediate use. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Expiration date is one (1) year from date of opening.

**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. LIMK1 hemizygosity is implicated in the impaired visuospatial constructive cognition of Williams syndrome. Two splice variant have been identified. LIM kinase has a cytoplamic localization.

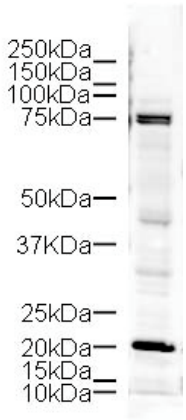


**Figure 1.** Western blot using Rockland's Affinity Purified anti-LIM Kinase antibody shows detection of a 73 kDa band corresponding to LIM kinase in lysates from mouse brain. Approximately 18 μg of lysate was run on a SDS-PAGE and transferred onto nitrocellulose followed by reaction with a 1:500 dilution 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.

**Application Note(s):** 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.

**Recommended Dilutions**:

| | |
|---|---|
| **ELISA** | 1:8,000 - 1:36,000 |
| **WESTERN BLOT** | 1:500 - 1:2,000 |
| **IF MICROSCOPY** | User Optimized |
| **OTHER APPLICATIONS** | User Optimized |

**Purity and Specificity**: 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.

**Relevant Link(s)**: Swiss Prot: P53667 NCBI Link NP_002305 (isoform 1)

**Protein Sequence:** Human LIM Kinase (isoform 1), 647 aa, predicted MW 72.6 kDa

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | mrltllcctw | reermgeegs | elpvcascgq | riydgqylqa | lnadwhadcf | rccdcsasls |
| 61 | hqyyekdgql | fckkdywary | geschgcseq | itkglvmvag | elkyhpecfi | cltcgtfigd |
| 121 | gdtytlvehs | klycghcyyq | tvvtpvieqi | lpdspgshlp | htvtlvsipa | sshgkrglsv |
| 181 | sidpphgppg | cgtehshtvr | vqgvdpgcms | pdvknsihvg | drileingtp | irnvpldeid |
| 241 | lliqetsrll | qltlehdphd | tlghglgpet | splsspaytp | sgeagssarq | kpvlrscsid |
| 301 | rspgagslgs | pasqrkdlgr | seslrvvcrp | hrifrpsdli | hgevlgkgcf | gqaikvthre |
| 361 | tgevmvmkel | irfdeetqrt | flkevkvmrc | lehpnvlkfi | gvlykdkrln | fiteyikggt |
| 421 | lrgiiksmds | qypwsqrvsf | akdiasgmay | lhsmniihrd | lnshnclvre | nknvvvadfg |
| 481 | larlmvdekt | qpeglrslkk | pdrkkrytvv | gnpywmapem | ingrsydekv | dvfsfgivlc |
| 541 | eiigrvnadp | dylprtmdfg | lnvrgfldry | cppncppsff | pitvrccdld | pekrpsfvkl |
| 601 | ehwletlrmh | laghlplgpq | leqldrgfw**e** | **tyrrgesglp** | **ahpevpd** | |

**Immunogen**: This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding aa 630-647 of human LIM kinase protein.

### General References:


Yang,X., Yu,K., Hao,Y., Li,D.M., Stewart,R., Insogna,K.L. and Xu,T. (2004) LATS1 tumour suppressor affects cytokinesis by inhibiting LIMK1. *Nat. Cell Biol*. **6** (7), 609-617.

Foletta,V.C., Moussi,N., Sarmiere,P.D., Bamburg,J.R. and Bernard,O. (2004) LIM kinase 1, a key regulator of actin dynamics, is widely expressed in embryonic and adult tissues. *Exp. Cell Res*. **294** (2), 392-405.

Yokoo,T., Toyoshima,H., Miura,M., Wang,Y., Iida,K.T., Suzuki,H., Sone,H., Shimano,H., Gotoda,T., Nishimori,S., Tanaka,K. and Yamada,N. (2003) p57Kip2 regulates actin dynamics by binding and translocating LIM-kinase 1 to the nucleus. *J. Biol. Chem*. **278** (52), 52919-52923.

Davila,M., Frost,A.R., Grizzle,W.E. and Chakrabarti,R. (2003) LIM kinase 1 is essential for the invasive growth of prostate epithelial cells: implications in prostate cancer. *J. Biol. Chem*. **278** (38), 36868-36875.

Roovers,K., Klein,E.A., Castagnino,P. and Assoian,R.K. (2003) Nuclear translocation of LIM kinase mediates Rho-Rho kinase regulation of cyclin D1 expression. *Dev. Cell* **5** (2), 273-284.

Yoshioka,K., Foletta,V., Bernard,O. and Itoh,K. (2003) A role for LIM kinase in cancer invasion. *Proc. Natl. Acad. Sci. U.S.A*. **100** (12), 7247-7252.

Birkenfeld,J., Betz,H. and Roth,D. (2003) Identification of cofilin and LIM-domain-containing protein kinase 1 as novel interaction partners of 14-3-3 zeta. *Biochem. J*. **369** (Pt 1), 45-54.


### Related Products:

| | |
|---|---|
| #611-703-127 | Peroxidase Conjugated Affinity Purified Anti-RABBIT IgG (H&L) (DONKEY) MX10 |
| #611-132-122 | IRDye800 Conjugated Affinity Purified Anti-RABBIT IgG (H&L) (GOAT) MX10 |
| #MB-070 | Blocking Buffer for Fluorescent Western Blotting |
| #KIA-003 | ***Max*Tag**™ Anti-RABBIT IgG Kit for Immunoblotting |
| #MB-070 | Blocking Buffer for Fluorescent Western Blotting |

**USDA Certification:** All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation.

**Note:** This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information.