

# phospho-LIMK1 (Ser-323) Peptide

Cat. # LX2435

Size 50 µg

## **Background:**

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.

## **References**

Okano, I. et al. (1995) J. Biol. Chem. 270:31321.  
Edwards, D. C. et al. (1999) Nat. Cell Biol. 1:253.  
Kobayashi, M. et al. (2006) EMBOJ 25:713.

## **Peptide Sequence:**

phospho-LIMK1 (Ser-323) synthetic peptide 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.

## **Buffer and Storage:**

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide.  
Store at -20°C. Stable for 1 year.

## **Applications:**

Blocking 1:1000

ELISA 50 ng/well

End user should determine optimal concentration dependent on the concentration of the antibody.  
Recommended for blocking antibody reactivity in Western blot and immunocytochemistry.  
ELISA established in 96-well Nunc immunoplates where peptide was bound to plates for 2 hrs in 0.1 M sodium carbonate buffer, pH 8.5.

## **Specificity:**

This peptide is specifically recognized by LIMK1 (Ser-323) phospho-specific antibody (LP2431) in ELISA, and has been shown to block the reactivity of LP2431 in Western blot and is recommended for blocking in immunocytochemistry.

## **Related Products:**

LP2431 LIMK1 (Ser-323), phospho-specific [Conserved site] Rabbit  
LP1831 LIMK1 (C-terminus) Rabbit Polyclonal  
LP1891 LIMK1 (Thr-508), phospho-specific [Conserved site] Rabbit  
LX2445 unphosphorylated LIMK1 (Ser-323) Peptide

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