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LIMK1 (Thr508) antibody Blocking peptide

Synthetic peptide
Catalog # BP10416a

Specification

LIMK1 (Thr508) antibody Blocking peptide - Product Information

Primary Accession	P53667
Other Accession	NP_002305.1

LIMK1 (Thr508) antibody Blocking peptide - Additional Information

Gene ID 3984

Other Names
LIM domain kinase 1, LIMK-1, LIMK1, LIMK

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

LIMK1 (Thr508) antibody Blocking peptide - 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

LIMK1 (Thr508) antibody Blocking peptide - Protocols

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

- Blocking Peptides

LIMK1 (Thr508) antibody Blocking peptide - Images

LIMK1 (Thr508) antibody Blocking peptide - Background

There are approximately 40 known eukaryotic LIM proteins,so named for the LIM domains they contain. LIM domains are highlyconserved 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. LIMkinase-1 and LIM kinase-2 belong to a small subfamily with a uniquecombination of 2 N-terminal LIM motifs and a C-terminal proteinkinase domain. LIMK1 is likely to be a component of anintracellular signaling pathway and may be involved in braindevelopment. LIMK1 hemizygosity is implicated in the impairedvisuospatial constructive cognition of Williams syndrome. [providedby RefSeq].

LIMK1 (Thr508) antibody Blocking peptide - References

Roder, C., et al. Childs Nerv Syst (2010) In press :Borensztajn, K., et al. Thromb. Res. 125 (6), E323-E328 (2010) :Saxena, M., et al. J Cancer Res Ther 6(2):167-171(2010)Mishima, T., et al. Biochem. Biophys. Res. Commun. 392(4):577-581(2010)Jugessur, A., et al. PLoS ONE 5 (7), E11493 (2010) :