

LIMK1 Protein, Human (Sf9, His)

Cat. No.:	HY-P701793
Synonyms:	LIMK1; LIM domain kinase 1; LIMK-1
Species:	Human
Source:	Sf9 insect cells
Accession:	P53667 (R329-G638)
Gene ID:	3984
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 µm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background

LIMK1 Protein, a serine/threonine-protein kinase, plays a vital role in regulating actin filament dynamics, acting downstream of various Rho family GTPase signal transduction pathways. Activation of LIMK1 is mediated by upstream kinases, including ROCK1, PAK1, and PAK4, which phosphorylate a threonine residue in its activation loop. Subsequently, LIMK1 phosphorylates and inactivates actin-binding/depolymerizing factors such as cofilin-1/CFL1, cofilin-2/CFL2, and destrin/DSTN, preventing the cleavage of filamentous actin (F-actin) and stabilizing the actin cytoskeleton. This regulation influences diverse actin-dependent processes, including cell motility, cell cycle progression, and differentiation. Additionally, LIMK1 phosphorylates TPPP on serine residues, promoting microtubule disassembly and stimulating axonal outgrowth, potentially contributing to brain development. Notably, LIMK1 has a dominant negative effect on actin cytoskeletal changes and is crucial for the atypical chemokine receptor ACKR2-induced phosphorylation of cofilin (CFL1).

Caution: Product has not been fully validated for medical applications. For research use only.

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