Datasheet for ABIN3093598

LIM Domain Kinase 1 Protein (LIMK1) (AA 1-647) (Strep Tag)

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1 Image

Overview

Quantity:	1 mg
Target:	LIM Domain Kinase 1 (LIMK1)
Protein Characteristics:	AA 1-647
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This LIM Domain Kinase 1 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MRLTLLCCTW REERMGEEGS ELPVCASCGQ RIYDGQYLQA LNADWHADCF RCCDCSASLS HQYYEKDGQL FCKKDYWARY GESCHGCSEQ ITKGLVMVAG ELKYHPECFI CLTCGTFIGD GDTYTLVEHS KLYCGHCYYQ TVVTPVIEQI LPDSPGSHLP HTVTLVSIPA SSHGKRGLSV SIDPPHGPPG CGTEHSHTVR VQGVDPGCMS PDVKNSIHVG DRILEINGTP IRNVPLDEID LLIQETSRLL QLTLEHDPHD TLGHGLGPET SPLSSPAYTP SGEAGSSARQ KPVLRSCSID RSPGAGSLGS PASQRKDLGR SESLRVVCRP HRIFRPSDLI HGEVLGKGCF GQAIKVTHRE TGEVMVMKEL IRFDEETQRT FLKEVKVMRC LEHPNVLKFI GVLYKDKRLN FITEYIKGGT LRGIIKSMDS QYPWSQRVSF AKDIASGMAY LHSMNIIHRD LNSHNCLVRE NKNVVVADFG LARLMVDEKT QPEGLRSLKK PDRKKRYTVV GNPYWMAPEM INGRSYDEKV DVFSFGIVLC EIIGRVNADP DYLPRTMDFG LNVRGFLDRY CPPNCPPSFF PITVRCCDLD PEKRPSFVKL EHWLETLRMH LAGHLPLGPQ LEQLDRGFWE TYRRGESGLP AHPEVPD **Sequence without tag. The proposed Strep-Tag is based on experience s with the expression**

system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):

1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag

Product Details

	capture material. Eluate fractions are analyzed by SDS-PAGE. 2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	>80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)
Grade:	Crystallography grade

Target Details

Target:	LIM Domain Kinase 1 (LIMK1)
Alternative Name:	LIMK1 (LIMK1 Products)
Background:	LIM domain kinase 1 (LIMK-1) (EC 2.7.11.1),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). {ECO:0000269|PubMed:10436159, ECO:0000269|PubMed:11832213, ECO:0000269|PubMed:12807904, ECO:0000269|PubMed:15660133, ECO:0000269|PubMed:16230460, ECO:0000269|PubMed:18028908, ECO:0000269|PubMed:22328514, ECO:0000269|PubMed:23633677}., FUNCTION: [Isoform 3]: Has a dominant negative effect on actin cytoskeletal changes. Required for atypical chemokine receptor ACKR2-induced phosphorylation of cofilin (CFL1). {ECO:0000269|PubMed:10196227}.
Molecular Weight:	72.6 kDa

Target Details

UniProt:	P53667
Pathways:	Caspase Cascade in Apoptosis, Regulation of Cell Size, CXCR4-mediated Signaling Events

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process

