Datasheet for ABIN5711343

LKB1 Protein (AA 1-429, partial) (His-SUMO Tag)

1 Image

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Overview

Quantity:	100 µg
Target:	LKB1 (STK11)
Protein Characteristics:	AA 1-429, partial
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Purification tag / Conjugate:	This LKB1 protein is labelled with His-SUMO Tag.
Application:	SDS-PAGE (SDS)

Product Details

Sequence:	MEVVDPQQLG MFTEGELMSV GMDTFIHRID STEVIYQPRR KRAKLIGKYL MGDLLGEGSY GKVKEVLDSE TLCRRAVKIL KKKKLRRIPN GEANVKKEIQ LLRRLRHKNV IQLVDVLYNE EKQKMYMVME YCVCGMQEML DSVPEKRFPV CQAHGYFCQL IDGLEYLHSQ GIVHKDIKPG NLLLTTGGTL KISDLGVAEA LHPFAADDTC RTSQGSPAFQ PPEIANGLDT FSGFKVDIWS AGVTLYNITT GLYPFEGDNI YKLFENIGKG SYAIPGDCGP PLSDLLKGML EYEPAKRFSI RQIRQHSWFR KKHPPAEAPV PIPPSPDTKD RWRSMTVVPY LEDLHGADED EDLFDIEDDI IYTQDFTVPG QVPEEEASHN GQRRGLPKAV CMNGTEAAQL STKSRAEGRA PNPARKACSA SSKIRRLSA
Purification:	SDS-PAGE
Purity:	> 90 %

Target Details

Target:	LKB1 (STK11)
Alternative Name:	STK11 (STK11 Products)
Background:	Tumor suppressor serine/threonine-protein kinase that controls the activity of AMP-activated protein kinase (AMPK) family mbers, thereby playing a role in various processes such as cell metabolism, cell polarity, apoptosis and DNA damage response. Acts by phosphorylating the T-loop of AMPK family proteins, thus promoting their activity: phosphorylates PRKAA1, PRKAA2, BRSK1, BRSK2, MARK1, MARK2, MARK3, MARK4, NUAK1, NUAK2, SIK1, SIK2, SIK3 and SNRK but not MELK. Also phosphorylates non-AMPK family proteins such as STRADA, PTEN and possibly p53/TP53. Acts as a key upstream regulator of AMPK by mediating phosphorylation and activation of AMPK catalytic subunits PRKAA1 and PRKAA2 and thereby regulates processes including: inhibition of signaling pathways that promote cell growth and proliferation when energy levels are low, glucose homeostasis in liver, activation of autophagy when cells undergo nutrient deprivation, and B-cell differentiation in the germinal center in response to DNA damage. Also acts as a regulator of cellular polarity by rodeling the actin cytoskeleton. Required for cortical neuron polarization by mediating phosphorylation and activation of BRSK1 and BRSK2, leading to axon initiation and specification. Involved in DNA damage response: interacts with p53/TP53 and recruited to the CDKN1A/WAF1 promoter to participate in transcription activation. Able to phosphorylate p53/TP53, the relevance of such result in vivo is however unclear and phosphorylation may be indirect and mediated by downstream STK11/LKB1 kinase NUAK1. Also acts as a mediator of p53/TP53-dependent apoptosis via interaction with p53/TP53: translocates to the mitochondrion during apoptosis and regulates p53/TP53-dependent apoptosis pathways. In vein endothelial cells, inhibits PI3K/Akt signaling activity and thus induces apoptosis in response to the oxidant peroxynitrite (in vitro). Regulates UV radiation-induced DNA damage response mediated by CDKN1A. In association with NUAK1, phosphorylates CDKN1A in response to UV radiation and contributes to its degradation which is necessary for optimal DNA repair
Molecular Weight:	64.1 kDa
UniProt:	Q15831
Pathways:	AMPK Signaling, Carbohydrate Homeostasis, Regulation of Carbohydrate Metabolic Process, Warburg Effect

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.

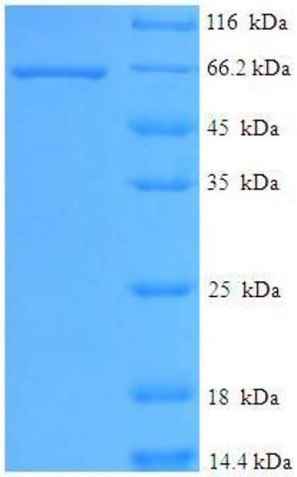
Application Details

Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	0.1-2 mg/mL
Buffer:	20 mM Tris-HCl based buffer, pH 8.0
Storage:	-80 °C,4 °C,-20 °C
Storage Comment:	Store at -20°C, for extended storage, conserve at -20°C or -80°C. Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

Images



SDS-PAGE

Image 1.