

Recombinant Mouse STK11 Protein (1-433 aa), His-Myc-tagged

Cat. No. STK11-2814M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Mouse STK11 Protein (1-433 aa) is produced by Baculovirus expression system. This protein is fused with a 10xHis tag at the N-terminal and a Myc tag at the C-terminal. Research Area: Cancer. Protein Description: Full Length.
Species	Mouse
Source	Insect Cells
ProteinLength	1-433 aa
Description	Tumor suppressor serine/threonine-protein kinase that controls the activity of AMP-activated protein kinase (AMPK) family members, 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, NUA1, NUA2, 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 remodeling the actin cytoskeleton. Required

 Tel: 1-631-559-9269 1-516-512-3133

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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 NUA1. 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. Regulates UV radiation-induced DNA damage response mediated by CDKN1A. In association with NUA1, phosphorylates CDKN1A in response to UV radiation and contributes to its degradation which is necessary for optimal DNA repair.

Form	Tris-based buffer,50% glycerol
Molecular Mass	52.9 kDa
AA Sequence	MDVADPEPLGLFSEGELMSVGMDTFIHRIDSTEVYQPRRKRAKLIGKYLMDLLGE GSYGKVKEVLDSSETLCRAVKILKKKKLRRIPNGEANVKKEIQLLRRLRHRNVIQLVD VLYNEEKQKMYMVMEYCVCGMQEMLDSVPEKRFVPCQAHGYFRQLIDGLEYLHSQ GIVHKDIKPGNLLTTNGTLKISDLGVAEALHPFAVDDTCRTSQGSPAFQPPEIANG DTFSGFKVDIWSAGVTLYNITTGLYPFEGDNIYKLFENIGRGDFTIPCDGPPSLDLLR GMLEYEPAKRFSIRQIRQHSWFRKKHPLAEALVPIPPSPDTKDRWRSMTVVPYLEDL HGRAEEEEEDLFDIEDGIIYTQDFTVPGQVLEEEVGQNGQSHSLPKAVCVNGTEPQ LSSKVKPEGRPGTANPARKVCSSNKIRRLSAC
Purity	> 85% as determined by SDS-PAGE.
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4

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centigrade for up to one week.

Storage

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20 centigrade/-80 centigrade. The shelf life of lyophilized form is 12 months at -20 centigrade/-80 centigrade.

Concentration

A hardcopy of COA will be sent along with the products. Please refer to it for detailed information.

GENE INFORMATION

Gene Name

Stk11 serine/threonine kinase 11 [*Mus musculus*]

Official Symbol

STK11

Synonyms

STK11; serine/threonine kinase 11; LKB1 short isoform; Lkb1; Par-4; mLKB1; R75140; AA408040;

Gene ID

20869

mRNA Refseq

NM_011492

Protein Refseq

NP_035622

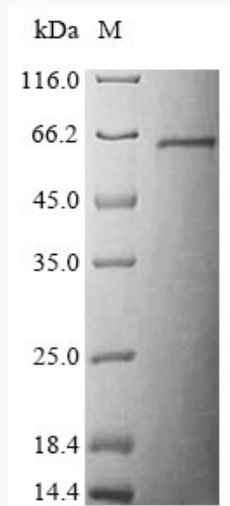
UniProt ID

Q9WTK7

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(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

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