



Recombinant Human Serine/threonine-protein kinase STK11 (STK11)

Product Code	CSB-EP624036HU
Relevance	<p>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 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 (in vitro). 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</p>
Abbreviation	Recombinant Human STK11 protein
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°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q15831
Alias	Liver kinase B1 ;LKB1 ;hLKB1Renal carcinoma antigen NY-REN-19
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.



Sequence

MEVVDPPQQLGMFTEGELMSVGMDFIHRIDSTEVYQPRRKRAKLIGKYLMDG
LLGEGSYGKVKEVLDSETLCRRRAVKILKKKLRIPNGEANVKKEIQLLRRLRH
KNVIQLVDVLYNEEKQKMYMVMEYCVCGMQEMLDSVPEKRFVPCQAHGYFC
QLIDGLEYLHSQGIVHKDIKPGNLLLTGGTLKISDLGVAEALHPFAADDTCRTS
QGSPAFQPPEIANGLDTFSGFKVDIWSAGVTLYNITTGLYPFEGDNIYKLFENIG
KGSYAIPGDCGPPLSDLLKGMLEYEPAKRFSIRQIRQHSWFRKKHPPAEAPVPI
PPSPDTKDRWRSMTVVPYLEDLHGADEDEDLFDIEDDIYTQDFTVPGQVPEE
EASHNGQRRGLPKAVCMNGTEAAQLSTKSRAEGRAPNPARKACSASSKIRRL
SAC

Research Area

Apoptosis

Source

E.coli

Target Names

STK11

Expression Region

1-430aa

Notes

Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

Tag Info

N-terminal 6xHis-SUMO-tagged

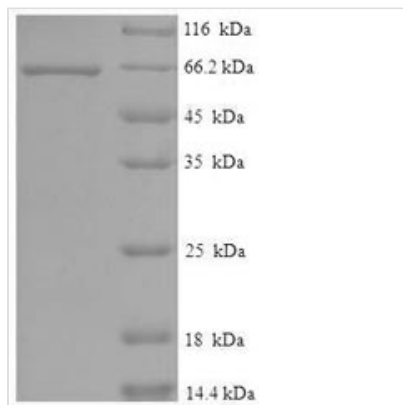
Mol. Weight

64.3kDa

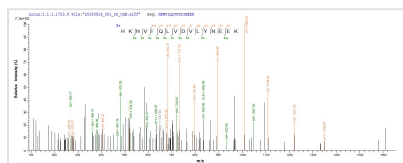
Protein Length

Full Length of Mature Protein

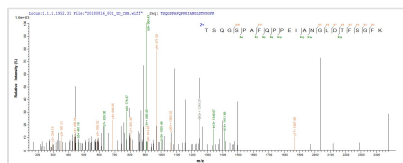
Image



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



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-EP624036HU could indicate that this peptide derived from E.coli-expressed Homo sapiens (Human) STK11.



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Description

This Recombinant Human STK11 protein is an essential tool for your apoptosis research needs. Serine/threonine-protein kinase STK11, also known as LKB1 or



PJS, is a key regulator of cell polarity and energy metabolism. Its involvement in apoptosis and other cellular processes, such as cell proliferation and differentiation, makes it a vital target for understanding the intricate mechanisms governing cell fate.

Our Recombinant Human STK11 protein is expressed in E.coli, ensuring robust production of the full length of mature protein (1-430aa). The N-terminal 6xHis-SUMO tag allows for efficient purification and detection while maintaining the protein's native structure and function. With a purity greater than 90% as determined by SDS-PAGE, our Recombinant Human STK11 protein ensures reliability and reproducibility in your experiments. Available in both liquid and lyophilized powder forms, our product offers the versatility to suit your specific research requirements.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

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