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Product datasheet for RN208420

Stk11 (NM_001108069) Rat Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Stk11 (NM_001108069) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Stk11
Synonyms:	Lkb1
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin

Fully Sequenced ORF:

>RN208420 representing NM_001108069
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGACGTGGCTGACCCCCAGCCGTTGGGCCTGTTCCCCGAGGGCGAGCTAATGTCGGTGGGCATGGACA
CCTTCATCCACCGCATCGACTCCACCGAGGTGATCTACCAGCCGCGCCGCAAGCGCGCCAAGCTCATCGG
CAAGTACCTGATGGGGGACCTGCTCGGGGAGGGCTCGTACGGCAAGGTGAAGGAGGTGCTGGACTCCGAG
ACCTTATGCCGCAGGGCGGTCAAGATCCTCAAGAAGAAAAAGCTGCGCAGGATCCCCAATGGCGAGGCCA
ACGTCAAGAAGGAGATCCAGCTGCTGCGGCGGCTGCGGCATCGGAATGTGATCCAGCTTGTGGATGTGCT
GTACAATGAGGAGAAGCAGAAGATGTATATGGTGATGGAGTACTGCGTGTGTGGCATGCAGGAGATGCTG
GACAGTGTGCCAGAGAAGCGCTTCCCCGTGTGCCAAGCTCATGGGTACTTCCGCCAGCTGATTGACGGCC
TGGAGTACCTACACAGCCAGGGCATTGTTCACAAGGACATCAAGCCGGGCAACCTGCTCCTCACCACCAA
TGGCACACTCAAGATCTCCGACCTCGGTGTTGCCGAGGCCTTGCACCCTTTCGCTGTGGATGACACCTGC
CGGACCAGCCAGGGCTCCCCAGCCTTCCAGCCTCCAGAGATTGCCAATGGACTGGACACCTTTTCAGGTT
TCAAGGTGGACATCTGGTCAGCTGGGGTCACACTCTACAACATCACCACGGGCCTGTACCCATTTGAGGG
GGACAATATCTACAAGCTCTTTGAGAACATCGGGAGAGGGGACTTCACCATCCCTTGTGACTGCGCTCCA
CCACTCTCTGACCTACTCCGAGGGATGTTGGAGTACGAGCCAGCCAAGAGGTTCTCCATCCGACAGATTA
GACAGCACAGCTGGTTCCGGAAGAAACACCCGCTGGCCGAGGCTCTTGTGCCTATCCCCCCAAGTCCAGA
CACTAAGGACCGCTGGCGCAGCATGACCGTAGTGCCCTACCTGGAGGACCTGCATGGCCGTGCAGAGGAG
GAGGAGGACGAGGACTTGTTTGACATTGAGGACGGCATCATCTATACCCAGGACTTCACAGTGCCTGGAC
AGGTCCTGGAAGAGGAAGTGGGTCAGAATGGACAGAGCCACAGCCTGCCCAAGGCTGTTTGTGTGAATGG
CACAGAGCCCCAGCTCAGCAGCAAGGTGAAGCCAGAAGGCCGGCCTGGCGCTGCCAACCCTGCACGCAAG
GTGTGCTCCAGCAACAAGATCCGCCGGCTCTCGGCCTGCAAGCAGCAGTGA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

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Restriction Sites:	SgfI-MluI
ACCN:	NM_001108069
Insert Size:	1311 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	1. Centrifuge at 5,000xg for 5min. 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA. 3. Close the tube and incubate for 10 minutes at room temperature. 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom. 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
RefSeq:	NM_001108069.1, NP_001101539.1
RefSeq Size:	3120 bp
RefSeq ORF:	1311 bp
Locus ID:	314621
UniProt ID:	A0A0H2UI02
Cytogenetics:	7q11

Gene Summary: 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, 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 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 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. 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 (By similarity).[UniProtKB/Swiss-Prot Function]