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Anti-LKB1 Picoband Antibody

Catalog # ABO11961

Product Information

Application	WB
Primary Accession	Q15831
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Serine/threonine-protein kinase STK11(STK11) detection. Tested with WB in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	6794
Other Names	Serine/threonine-protein kinase STK11, 2.7.11.1, Liver kinase B1, LKB1, hLKB1, Renal carcinoma antigen NY-REN-19, STK11, LKB1, PJS
Calculated MW	48636
Application Details	Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Nucleus. Cytoplasm. Membrane . Mitochondrion. A small fraction localizes at membranes (By similarity). Relocates to the cytoplasm when bound to STRAD (STRADA or STRADB) and CAB39/MO25 (CAB39/MO25alpha or CAB39L/MO25beta). Translocates to the mitochondrion during apoptosis. Translocates to the cytoplasm in response to metformin or peroxynitrite treatment. PTEN promotes cytoplasmic localization. .
Tissue Specificity	Ubiquitously expressed. Strongest expression in testis and fetal liver.
Source	Eukaryota
Protein Name	Serine/threonine-protein kinase STK11
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human LKB1 recombinant protein (Position: K62-C430). Human LKB1 shares 89% amino acid (aa) sequence identity with both mouse and rat LKB1.
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. LKB1 subfamily.

Protein Information

Name	STK11 (HGNC:11389)
Synonyms	LKB1, PJS
Function	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 (PubMed:12805220, PubMed:14517248, PubMed:14976552, PubMed:15016379, PubMed:15733851). 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 (PubMed:12805220, PubMed:14517248, PubMed:14976552, PubMed:15016379, PubMed:15733851). Also phosphorylates non-AMPK family proteins such as STRADA, PTEN and possibly p53/TP53 (PubMed:11430832, PubMed:15987703). 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 (PubMed:14976552). Also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton (PubMed:15016379). Required for cortical neuron polarization by mediating phosphorylation and activation of BRSK1 and BRSK2, leading to axon initiation and specification (PubMed:14976552). Involved in DNA damage response: interacts with p53/TP53 and recruited to the CDKN1A/WAF1 promoter to participate in transcription activation (PubMed:11430832, PubMed:17108107, PubMed:21317932). 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 (PubMed:11430832, PubMed:17108107, PubMed:21317932). 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 (PubMed:11430832, PubMed:17108107, PubMed:21317932). Regulates UV radiation-induced DNA damage response mediated by CDKN1A (PubMed:25329316). In association with NUAK1, phosphorylates CDKN1A in response to UV radiation and contributes to its degradation which is necessary for optimal DNA repair (PubMed:25329316).
Cellular Location	Nucleus. Cytoplasm. Membrane {ECO:0000250|UniProtKB:Q9WTK7} Mitochondrion. Late endosome {ECO:0000250|UniProtKB:Q9WTK7}. Note=A small fraction localizes at membranes (By similarity). Relocates to the cytoplasm when bound to STRAD (STRADA or STRADB) and CAB39/MO25 (CAB39/MO25alpha or CAB39L/MO25beta) (PubMed:18854309). Translocates to the mitochondrion during apoptosis. PTEN promotes cytoplasmic localization (PubMed:11430832). Translocates to late endosomes in response to calorie restriction (By similarity). {ECO:0000250|UniProtKB:Q9WTK7,

ECO:0000269|PubMed:11430832, ECO:0000269|PubMed:18854309}

Tissue Location Ubiquitously expressed. Strongest expression in testis and fetal liver

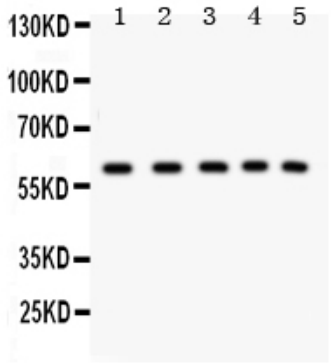
Background

Serine/threonine kinase 11 or LKB1 is a protein kinase which in humans is encoded by the STK11 gene. The STK11 gene, which encodes a member of the serine/threonine kinase, regulates cell polarity and functions as a tumour suppressor. STK11 is a primary upstream kinase of adenine monophosphate-activated protein kinase (AMPK), a necessary element in cell metabolism that is required for maintaining energy homeostasis. It has been found that LKB1 physically associates with p53 and regulates specific p53-dependent apoptosis pathways. The STK11 gene extends over 23 kb of genomic DNA and is composed of 9 exons, which are transcribed in telomere-to-centromere direction.

Images



Anti-LKB1 Picoband antibody, ABO11961, Western blottingAll lanes: Anti LKB1 (ABO11961) at 0.5ug/mlWB: Recombinant Human LKB1 Protein 0.5ngPredicted bind size: 39KDObserved bind size: 39KD



Anti-LKB1 Picoband antibody, ABO11961, Western blottingAll lanes: Anti LKB1 (ABO11961) at 0.5ug/mlLane 1: 293T Whole Cell Lysate at 40ugLane 2: HT1080 Whole Cell Lysate at 40ugLane 3: SHG Whole Cell Lysate at 40ugLane 4: JURKAT Whole Cell Lysate at 40ugLane 5: Human Placenta Tissue Lysate at 50ugPredicted bind size: 48KDObserved bind size: 60KD

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