

Anti-LKB1 Picoband Antibody
Catalog # ABO11961**Specification**

Anti-LKB1 Picoband Antibody - 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.

Anti-LKB1 Picoband Antibody - 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 MW KDa

Application Details

Western blot, 0.1-0.5 µg/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.

Protein Name

Serine/threonine-protein kinase STK11

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Na₃.

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 reconstitution, 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.

Anti-LKB1 Picoband Antibody - 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. 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 (PubMed: [25329316](http://www.uniprot.org/citations/25329316)).

Cellular Location

Nucleus. Cytoplasm. Membrane. Mitochondrion. 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) Translocates to the mitochondrion during apoptosis. PTEN promotes cytoplasmic localization.

Tissue Location

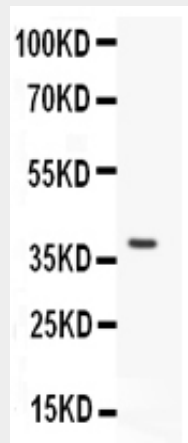
Ubiquitously expressed. Strongest expression in testis and fetal liver

Anti-LKB1 Picoband Antibody - Protocols

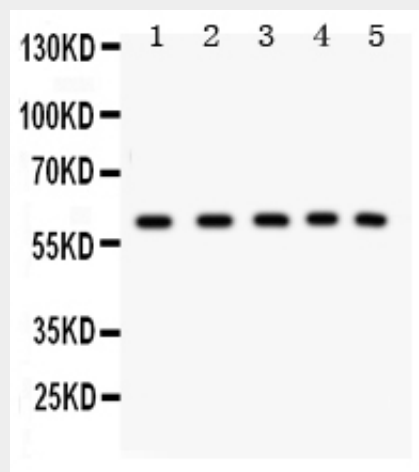
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-LKB1 Picoband Antibody - Images



Anti-LKB1 Picoband antibody, ABO11961, Western blotting All lanes: Anti LKB1 (ABO11961) at 0.5ug/ml WB: Recombinant Human LKB1 Protein 0.5ng Predicted bind size: 39KD Observed bind size: 39KD



Anti-LKB1 Picoband antibody, ABO11961, Western blotting All lanes: Anti LKB1 (ABO11961) at 0.5ug/ml Lane 1: 293T Whole Cell Lysate at 40ug Lane 2: HT1080 Whole Cell Lysate at 40ug Lane 3: SHG Whole Cell Lysate at 40ug Lane 4: JURKAT Whole Cell Lysate at 40ug Lane 5: Human Placenta

Tissue Lysate at 50ug Predicted bind size: 48KD Observed bind size: 60KD

Anti-LKB1 Picoband Antibody - 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.