

Anti-LKB1 Antibody
Catalog # ABO10679**Specification**

Anti-LKB1 Antibody - Product Information

Application	WB, IHC
Primary Accession	Q15831
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Serine/threonine-protein kinase STK11(STK11) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-LKB1 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

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

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 Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human LKB1(421-433aa SSKIRRLSACKQQ), different from the mouse sequence by one amino acid.

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 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.

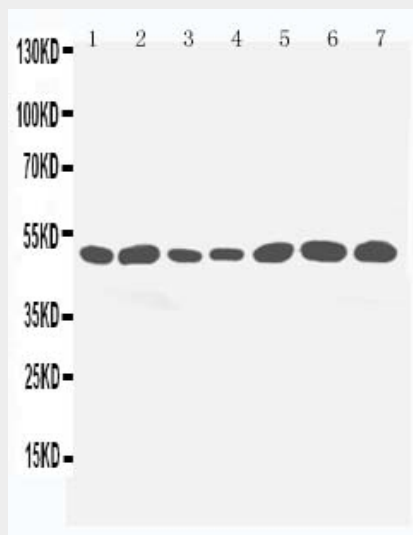
Tissue Location

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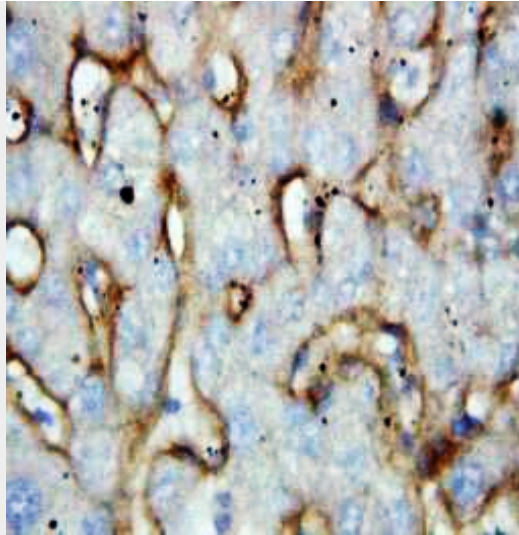
Anti-LKB1 Antibody - Protocols

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 Antibody - Images

Anti-LKB1 antibody, ABO10679, Western blotting
Lane 1: Rat Testis Tissue Lysate
Lane 2: Rat Liver Tissue Lysate
Lane 3: Rat Lung Tissue Lysate
Lane 4: Rat Embryo Tissue Lysate
Lane 5: MM453 Cell Lysate
Lane 6: HELA Cell Lysate
Lane 7: SMMC Cell Lysate



Anti-LKB1 antibody, ABO10679, IHC(P)IHC(P): Human Liver Cancer Tissue

Anti-LKB1 Antibody - Background

Serine/threonine kinase 11 or LKB1 is a protein kinase which in humans is encoded by the STK11 gene. The STK11/LKB1 gene, which encodes a member of the serine/threonine kinase, regulates cell polarity and functions as a tumour suppressor. Smith et al.(1999) found that the mouse Lkb1 gene encodes a protein showing strong sequence similarity to human LKB1. Karuman et al.(2001) demonstrated that LKB1 physically associates with p53(191170) and regulates specific p53-dependent apoptosis pathways. Jenne et al.(1998) determined that the STK11 gene extends over 23 kb of genomic DNA and is composed of 9 exons, which are transcribed in telomere-to-centromere direction. Smith et al.(1999) found that the mouse Lkb1 gene consists of 10 exons covering approximately 15 kb.