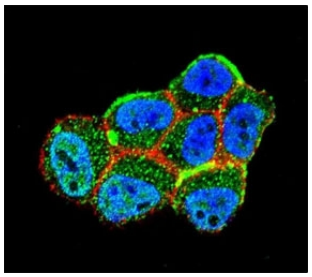
LKB1 Antibody / Liver Kinase B1 / STK11 (F50221)

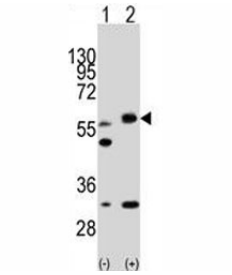
Catalog No.	Formulation	Size
F50221-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F50221-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

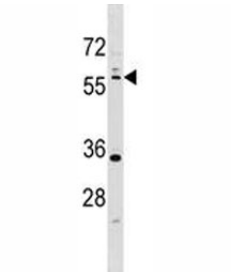
Availability	1-3 business days
Species Reactivity	Human
Predicted Reactivity	Chicken, Mouse, Rat, Xenopus
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Purified
UniProt	Q15831
Applications	IHC (Paraffin) : 1:50-1:100 Western Blot : 1:1000 Flow Cytometry : 1:10-1:50 Immunofluorescence : 1:10-1:50
Limitations	This LKB1 antibody is available for research use only.



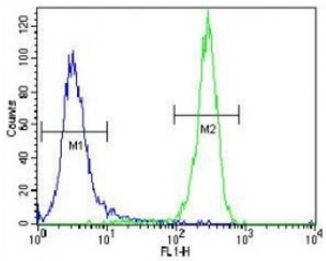
Confocal immunofluorescent analysis of LKB1 antibody with ZR-75-1 cells followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). Actin filaments have been labeled with Alexa Fluor 555 Phalloidin (red). DAPI was used as a nuclear counterstain (blue).



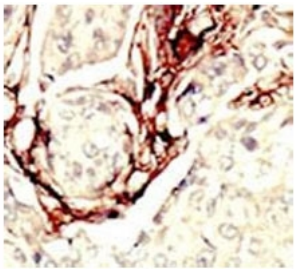
Western blot analysis of LKB1 antibody and 293 cell lysate (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the STK11 gene (2). Predicted molecular weight: 50~60 kDa



LKB1 antibody western blot analysis in T47D lysate. Predicted molecular weight: 50~60 kDa



LKB1 antibody flow cytometric analysis of NCI-H460 cells (green) compared to a negative control (blue).



IHC analysis of FFPE human breast carcinoma tissue stained with the LKB1 antibody

Description

LKB1 is a 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. 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 NUAK1, phosphorylates CDKN1A in response to UV radiation and contributes to its degradation which is necessary for optimal DNA repair. [UniProt]

Application Notes

Titration of the LKB1 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 14-44 from the human protein was used as the immunogen for this LKB1 antibody.

Storage

Aliquot the LKB1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

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