10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Mouse Stk11 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP17316b

Specification

Mouse Stk11 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q9WTK7

Mouse Stk11 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 20869

Other Names
Serine/threonine-protein kinase STK11, Liver kinase B1 homolog, LKB1, mLKB1, Stk11 {ECO:0000312|MGI:MGI:1341870}

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Mouse Stk11 Antibody (C-term) Blocking Peptide - Protein Information

Name Stk11 {ECO:0000312|MGI:MGI:1341870}

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).

Cellular Location
Nucleus. Cytoplasm. Membrane. Mitochondrion. Note=Translocates to mitochondrion during apoptosis (By similarity). A small fraction localizes at membranes. Relocates to the cytoplasm when bound to STRAD (STRADA or STRADB) and CAB39/MO25 (CAB39/MO25alpha or CAB39L/MO25beta). PTEN promotes cytoplasmic localization (By similarity).

Tissue Location
[Isoform 1]: Widely expressed. [Isoform 3]: Expressed in adult brain and liver and absent from tissues derived from postnatal day 7

Mouse Stk11 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

Mouse Stk11 Antibody (C-term) Blocking Peptide - Images

Mouse Stk11 Antibody (C-term) Blocking Peptide - Background

Essential role in G1 cell cycle arrest. Phosphorylates and activates members of the AMPK-related subfamily of protein kinases (By similarity). Tumor suppressor.

Mouse Stk11 Antibody (C-term) Blocking Peptide - References

Gao, Y., et al. Proc. Natl. Acad. Sci. U.S.A. 107(44):18892-18897(2010)Bungard, D., et al. Science 329(5996):1201-1205(2010)Koh, H.J., et al. Proc. Natl. Acad. Sci. U.S.A. 107(35):15541-15546(2010)Foretz, M., et al. J. Clin. Invest. 120(7):2355-2369(2010)Asada, N., et al. J. Neurosci. 30(26):8852-8865(2010)