SANTA CRUZ BIOTECHNOLOGY, INC.

LKB1 (M-18): sc-5640

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Peutz-Jeghers syndrome (PJS) is a rare hereditary disease characterized by melanocytic macules lips, gastrointestinal hamartomatous polyps and an increased risk for many classes of cancer. LKB1 (also designated STK11 and PJS) has been identified as the gene mutated in PJS. LKB1 is a 433 amino acid serine/threonine kinase with strong homology to the *Xenopus* cytoplasmic protein kinase XEEK1 and weaker similarity to many other protein kinases. LKB1 is ubiquitously expressed and many frameshift, deletion and splicing mutations have been identified in PJS patients. Despite the increased risk of cancer for PJS patients, LKB1 does not appear to play a major role in colorectal, testicular or breast cancers.

REFERENCES

1. Jenne, D.E., et al. 1998. Peutz-Jeghers syndrome is caused by mutations in a novel serine threonine kinase. Nat. Genet. 18: 38-43.
2. Hemminki, A., et al. 1998. A serine/threonine kinase gene defective in Peutz-Jeghers syndrome. Nature 391: 184-187.

CHROMOSOMAL LOCATION

Genetic locus: (mouse) mapping to 10 C1.

SOURCE

LKB1 (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of LKB1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-5640 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LKB1 (M-18) is recommended for detection of LKB1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LKB1 siRNA (m): sc-35817, LKB1 siRNA (r): sc-270074, LKB1 shRNA Plasmid (m): sc-35817-SH, LKB1 shRNA Plasmid (r): sc-270074-SH, LKB1 shRNA (m) Lentiviral Particles: sc-35817-V and LKB1 shRNA (r) Lentiviral Particles: sc-270074-V.

Molecular Weight of LKB1: 52 kDa.

Positive Controls: mouse kidney extract: sc-2255.

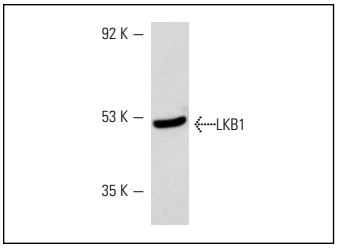
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



LKB1 (M-18): sc-5640. Western blot analysis of LKB1 expression in mouse kidney extract.

SELECT PRODUCT CITATIONS

1. Altarejos, J., et al. 2005. Myocardial ischemia differentially regulates LKB1 and an alternate 5'-AMP-activated protein kinase kinase. J. Biol. Chem. 280: 183-190.
2. Xie, M., et al. 2006. A pivotal role for endogenous TGF-β-activated kinase-1 in the LKB1/AMP-activated protein kinase energy-sensor pathway. Proc. Natl. Acad. Sci. USA 2006. 103: 17378-17383.
3. Soltys, C.L., et al. 2006. Activation of cardiac AMP-activated protein kinase by LKB1 expression or chemical hypoxia is blunted by increased Akt activity. Am. J. Physiol. Heart Circ. Physiol. 290: H2472-H2479.
4. Branvold, D.J., et al. 2008. Thyroid hormone effects on LKB1, MO25, phospho-AMPK, phospho-CREB, and PGC-1α in rat muscle. J. Appl. Physiol. 105: 1218-1227.
5. Song, P., et al. 2008. Protein kinase Cζ-dependent LKB1 serine 428 phosphorylation increases LKB1 nucleus export and apoptosis in endothelial cells. J. Biol. Chem. 283: 12446-12455.
6. Nakken, G.N., et al. 2010. Effects of excess corticosterone on LKB1 and AMPK signaling in rat skeletal muscle. J. Appl. Physiol. 108: 298-305.
7. Smith, C.D., et al. 2011. Characterization of the liver kinase B1-mouse protein-25 -Ste-20-related adaptor protein complex in adult mouse skeletal muscle. J. Appl. Physiol. 111: 1622-1628.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.