SANTA CRUZ BIOTECHNOLOGY, INC.

p-LKB1 (C-1): sc-271924

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. Phosphorylation of LKB1 at Ser431 by p90(RSK) and cAMP-dependent protein kinase is essential for LKB1 to suppress cell growth.

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.
3. Mehenni, H., et al. 1998. Loss of LKB1 kinase activity in Peutz-Jeghers syndrome and evidence for allelic and locus heterogeneity. Am. J. Hum. Genet. 63: 1641-1650.

CHROMOSOMAL LOCATION

Genetic locus: STK11 (human) mapping to 19p13.3; Stk11 (mouse) mapping to 10 C1.

SOURCE

p-LKB1 (C-1) is a mouse monoclonal antibody raised against a short amino acid sequence containing Ser 431 phosphorylated LKB-1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-LKB1 (C-1) is available conjugated to agarose (sc-271924 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271924 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271924 PE), fluorescein (sc-271924 FITC), Alexa Fluor® 488 (sc-271924 AF488), Alexa Fluor® 546 (sc-271924 AF546), Alexa Fluor® 594 (sc-271924 AF594) or Alexa Fluor® 647 (sc-271924 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271924 AF680) or Alexa Fluor® 790 (sc-271924 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271924 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

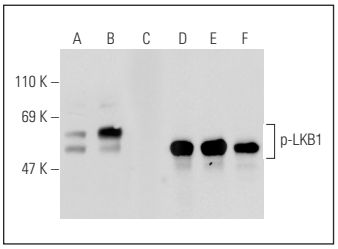
p-LKB1 (C-1) is recommended for detection of Ser 431 phosphorylated LKB1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 (h): sc-35816, LKB1 siRNA (m): sc-35817, LKB1 siRNA (r): sc-270074, LKB1 shRNA Plasmid (h): sc-35816-SH, LKB1 shRNA Plasmid (m): sc-35817-SH, LKB1 shRNA Plasmid (r): sc-270074-SH, LKB1 shRNA (h) Lentiviral Particles: sc-35816-V, LKB1 shRNA (m) Lentiviral Particles: sc-35817-V and LKB1 shRNA (r) Lentiviral Particles: sc-270074-V.

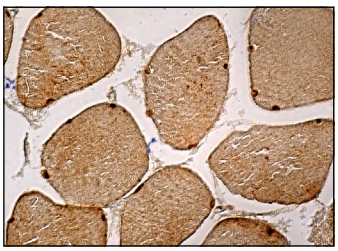
Molecular Weight of p-LKB1: 52 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224.

DATA



Western blot analysis of LKB1 phosphorylation in untreated (**A**,**D**), PMA treated (**B**,**E**) and PMA and lambda protein phosphatase (sc-200312A) treated (**C**,**F**) Jurkat whole cell lysates. Antibodies tested include p-LKB1 (C-1): sc-271924 (**A**,**B**,**C**) and LKB1 (Ley 37D/G6): sc-32245 (**D**,**E**,**F**).



p-LKB1 (C-1): sc-271924. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic, membrane and nuclear staining of myocytes.

SELECT PRODUCT CITATIONS

1. Imielski, Y., et al. 2012. Regrowing the adult brain: NFκB controls functional circuit formation and tissue homeostasis in the dentate gyrus. PLoS ONE 7: e30838.
2. Zhang, Z., et al. 2019. TLR4 counteracts BVRA signaling in human leukocytes via differential regulation of AMPK, mTORC1 and mTORC2. Sci. Rep. 9: 7020.
3. Yang, S., et al. 2020. Tectorigenin attenuates diabetic nephropathy by improving vascular endothelium dysfunction through activating AdipoR1/2 pathway. Pharmacol. Res. 153: 104678.
4. Feng, X., et al. 2021. PLAC8 promotes the autophagic activity and improves the growth priority of human trophoblast cells. FASEB J. 35: e21351.

STORAGE

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