SANTA CRUZ BIOTECHNOLOGY, INC.

LKB1 (D-19): sc-5638

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.

CHROMOSOMAL LOCATION

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

SOURCE

LKB1 (D-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-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-5638 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LKB1 (D-19) is recommended for detection of LKB1 of mouse, rat and human 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), 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).

LKB1 (D-19) is also recommended for detection of LKB1 in additional species, including equine, canine, bovine and avian.

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 LKB1: 52 kDa.

Positive Controls: Mouse kidney extract: sc-2255 or A-431 whole cell lysate: sc-2201.

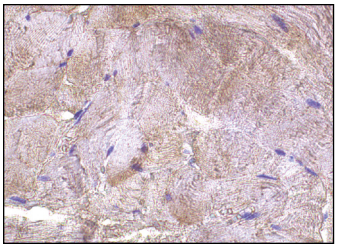
STORAGE

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 (D-19): sc-5638. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes cells.

SELECT PRODUCT CITATIONS

1. Bardeesy, N., et al. 2002. Loss of the LKB1 tumour suppressor provokes intestinal polyposis but resistance to transformation. Nature 419: 162-167.
2. Amin, R.M., et al. 2008. Role of the PI3K/Akt, mTOR, and STK11/LKB1 pathways in the tumorigenesis of sclerosing hemangioma of the lung. Pathol. Int. 58: 38-44.
3. Xie, Z., et al. 2009. Identification of the serine 307 of LKB1 as a novel phosphorylation site essential for its nucleocytoplasmic transport and endothelial cell angiogenesis. Mol. Cell. Biol. 29: 3582-3596.
4. Klimova, T.A., et al. 2009. Hyperoxia-induced premature senescence requires p53 and pRb, but not mitochondrial matrix ROS. FASEB J. 23: 783-794.
5. Asada, N. and Sanada, K. 2010. LKB1-mediated spatial control of GSK3β and adenomatous polyposis coli contributes to centrosomal forward movement and neuronal migration in the developing neocortex. J. Neurosci. 30: 8852-8865.
6. 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.
7. 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.
8. Lai, D., et al. 2012. LKB1 controls the pluripotent state of human embryonic stem cells. Cell. Reprogram. 14: 164-170.