SANTA CRUZ BIOTECHNOLOGY, INC.

LKB1 (N-19): sc-8185

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.
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.
4. Bignell, G.R., et al. 1998. Low frequency of somatic mutations in the LKB1/Peutz-Jeghers syndrome gene in sporadic breast cancer. Cancer Res. 58: 1384-1386.
5. Avizienyte, E., et al. 1998. Somatic mutations in LKB1 are rare in sporatic colorectal and testicular tumors. Cancer Res. 58: 2087-2090.
6. Resta, N., et al. 1998. STK11 mutations in Peutz-Jeghers syndrome and sporatic colon cancer. Cancer Res. 58: 4799-4800.

CHROMOSOMAL LOCATION

Genetic locus: STK11 (human) mapping to 19p13.3.

SOURCE

LKB1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of LKB1 of human 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-8185 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

LKB1 (N-19) is recommended for detection of LKB1 of human origin by West-ern 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)], im-munofluorescence (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).

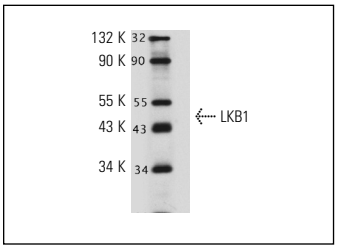
LKB1 (N-19) is also recommended for detection of LKB1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for LKB1 siRNA (h): sc-35816, LKB1 shRNA Plasmid (h): sc-35816-SH and LKB1 shRNA (h) Lentiviral Particles: sc-35816-V.

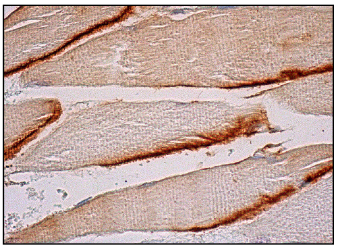
Molecular Weight of LKB1: 52 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

DATA



LKB1 (N-19): sc-8185. Western blot analysis of LKB1 expression in A-431 whole cell lysate.



LKB1 (N-19): sc-8185. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing membrane and cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Jishage, K., et al. 2002. Role of LKB1, the causative gene of Peutz-Jegher's syndrome, in embryogenesis and polyposis. Proc. Natl. Acad. Sci. USA 99: 8903-8908.
2. Forcet, C., et al. 2005. Functional analysis of Peutz-Jeghers mutations reveals that the LKB1 C-terminal region exerts a crucial role in regulating both the AMPK pathway and the cell polarity. Hum. Mol. Genet. 14: 1283-1292.
3. Lan, F., et al. 2008. SIRT1 modulation of the acetylation status, cytosolic localization, and activity of LKB1. Possible role in AMP-activated protein kinase activation. J. Biol. Chem. 283: 27628-27635.