

LKB1 (H-3): sc-374324

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

- Jenne, D.E., et al. 1998. Peutz-Jeghers syndrome is caused by mutations in a novel serine threonine kinase. *Nat. Genet.* 18: 38-43.
- Hemminki, A., et al. 1998. A serine/threonine kinase gene defective in Peutz-Jeghers syndrome. *Nature* 391: 184-187.
- 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.
- 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.
- Avizienyte, E., et al. 1998. Somatic mutations in LKB1 are rare in sporadic colorectal and testicular tumors. *Cancer Res.* 58: 2087-2090.
- Resta, N., et al. 1998. STK11 mutations in Peutz-Jeghers syndrome and sporadic colon cancer. *Cancer Res.* 58: 4799-4801.
- Shaw, R.J., et al. 2004. The LKB1 tumor suppressor negatively regulates mTOR signaling. *Cancer Cell* 6: 91-99.
- Spicer, J., et al. 2004. LKB1 kinase: master and commander of metabolism and polarity. *Curr. Biol.* 14: R383-R385.
- Baas, A.F., et al. 2004. LKB1 tumor suppressor protein: PARTaker in cell polarity. *Trends Cell Biol.* 14: 312-319.

CHROMOSOMAL LOCATION

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

SOURCE

LKB1 (H-3) is a mouse monoclonal antibody raised against amino acids 1-75 mapping at the N-terminus of LKB1 of human 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.

STORAGE

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

APPLICATIONS

LKB1 (H-3) is recommended for detection of LKB1 of 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) 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 shRNA Plasmid (h): sc-35816-SH and LKB1 shRNA (h) Lentiviral Particles: sc-35816-V.

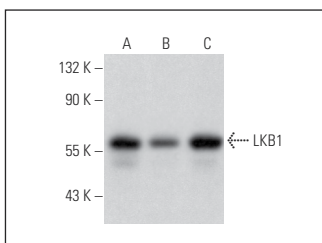
Molecular Weight of LKB1: 52 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or human kidney extract: sc-363764.

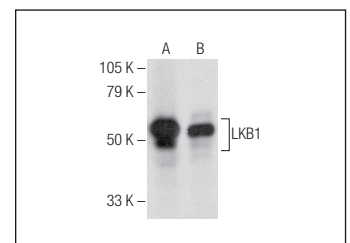
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



LKB1 (H-3): sc-374324. Western blot analysis of LKB1 expression in Jurkat (A), Raji (B) and K-562 (C) whole cell lysates.



LKB1 (H-3): sc-374324. Western blot analysis of LKB1 expression in Jurkat whole cell lysate (A) and human kidney tissue extract (B).

SELECT PRODUCT CITATIONS

- Goel, R.K., et al. 2018. Global phosphoproteomic analysis identifies SRMS-regulated secondary signaling intermediates. *Proteome Sci.* 16: 16.

RESEARCH USE

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



See **LKB1 (Ley 37D/G6): sc-32245** for LKB1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.