

LKB1 (E-9): sc-374334

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.

SOURCE

LKB1 (E-9) 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 IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LKB1 (E-9) is available conjugated to agarose (sc-374334 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374334 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374334 PE), fluorescein (sc-374334 FITC), Alexa Fluor® 488 (sc-374334 AF488), Alexa Fluor® 546 (sc-374334 AF546), Alexa Fluor® 594 (sc-374334 AF594) or Alexa Fluor® 647 (sc-374334 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374334 AF680) or Alexa Fluor® 790 (sc-374334 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

LKB1 (E-9) 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), 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 shRNA Plasmid (h): sc-35816-SH and LKB1 shRNA (h) Lentiviral Particles: sc-35816-V.

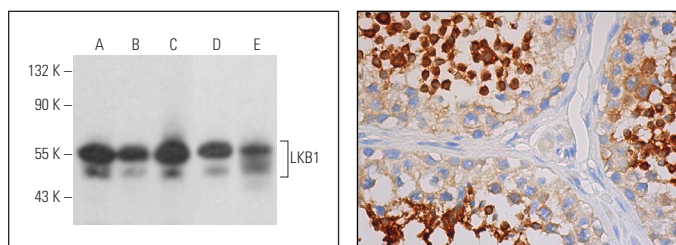
Molecular Weight of LKB1: 52 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



LKB1 (E-9): sc-374334. Western blot analysis of LKB1 expression in Jurkat (A), Raji (B), K-562 (C), A-431 (D) and Hep G2 (E) whole cell lysates.

LKB1 (E-9): sc-374334. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic, membrane and nuclear staining of cells in seminiferous ducts.

SELECT PRODUCT CITATIONS

- Sinha, R.A., et al. 2015. Thyroid hormone induction of mitochondrial activity is coupled to mitophagy via Ros-AMPK-ULK1 signaling. *Autophagy* 11: 1341-1357.
- Sun, R., et al. 2015. Liver kinase B1 promoter CpG island methylation is related to lung cancer and smoking. *Int. J. Clin. Exp. Med.* 8: 14070-14074.
- Liu, X., et al. 2016. LncRNA NBR2 engages a metabolic checkpoint by regulating AMPK under energy stress. *Nat. Cell Biol.* 18: 431-442.
- Trapp, E.K., et al. 2017. LKB1 pro-oncogenic activity triggers cell survival in circulating tumor cells. *Mol. Oncol.* 11: 1508-1526.
- Tuladhar, R., et al. 2019. CRISPR-Cas9-based mutagenesis frequently provokes on-target mRNA misregulation. *Nat. Commun.* 10: 4056.
- Donnelly, L.L., et al. 2021. Functional assessment of somatic STK11 variants identified in primary human non-small cell lung cancers. *Carcinogenesis* 42: 1428-1438.
- Wang, T., et al. 2022. The AMPK-HoxB9-KRAS axis regulates lung adenocarcinoma growth in response to cellular energy alterations. *Cell Rep.* 40: 111210.

STORAGE

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