

p-LKB1 (Ser 431)-R: sc-28465-R

BACKGROUND

Pautz-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.

CHROMOSOMAL LOCATION

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

SOURCE

p-LKB1 (Ser 431)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 431 phosphorylated 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-28465 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.

APPLICATIONS

p-LKB1 (Ser 431)-R is recommended for detection of Ser 431 phosphorylated 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); may cross-react with phosphorylated H⁺/K⁺ ATPase α1.

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.

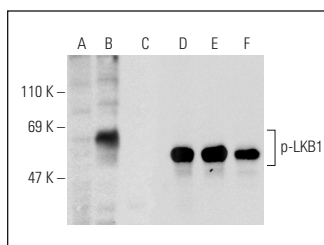
Molecular Weight of p-LKB1: 52 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Jurkat + PMA cell lysate: sc-24718 or Caki-1 cell lysate: sc-2224.

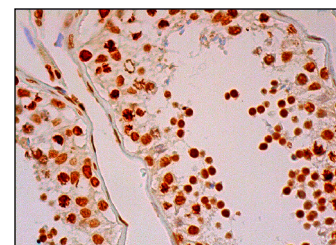
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Western blot analysis of LKB1 phosphorylation in untreated (A,D), PMA treated (B,E) and lambda protein phosphatase (sc-200312A) treated (C,F) Jurkat whole cell lysates. Antibodies tested include p-LKB1 (Ser 431)-R: sc-28465-R (A,B,C) and LKB1 (Ley 37D/G6): sc-32245 (D,E,F).



p-LKB1 (Ser 431)-R: sc-28465-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

- Barnes, A.P., et al. 2007. LKB1 and SAD kinases define a pathway required for the polarization of cortical neurons. *Cell* 129: 549-563.
- Vila-Bedmar, R., et al. 2010. Adenosine 5'-monophosphate-activated protein kinase-mammalian target of rapamycin cross talk regulates brown adipocyte differentiation. *Endocrinology* 151: 980-992.
- Fu, D., et al. 2011. Bile acid stimulates hepatocyte polarization through a cAMP-Epac-MEK-LKB1-AMPK pathway. *Proc. Natl. Acad. Sci. USA* 108: 1403-1408.

RESEARCH USE

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



Try **p-LKB1 (C-1): sc-271924**, our highly recommended monoclonal alternative to p-LKB1 (Ser 431).