

# STRAD (N-13): sc-34102

## BACKGROUND

Peutz-Jeghers Syndrome (PJS) is a rare hereditary disease characterized by melanocytic macules of the lips, gastrointestinal hamartomatous polyps and an increased risk for many classes of cancer. The serine/threonine kinase LKB1 (also designated STK11) has been identified as the gene mutated in PJS. LKB1 activity increases upon the binding of a regulatory complex consisting of the STE20-related adaptor- $\alpha$  (STRAD  $\alpha$ ) pseudo kinase and the calcium binding protein 39 (MO25  $\alpha$ ). STRAD determines the subcellular localization of LKB1 by initiating its translocation from the nucleus to the cytoplasm, thus regulating the tumor suppressor activity of LKB1.

## REFERENCES

1. 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.
2. 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.
3. Avizienyte, E., et al. 1998. Somatic mutations in LKB1 are rare in sporadic colorectal and testicular tumors. *Cancer Res.* 58: 2087-2090.
4. Resta, N., et al. 1998. STK11 mutations in Peutz-Jeghers syndrome and sporadic colon cancer. *Cancer Res.* 58: 4799-4800.
5. Jenne, D.E., et al. 1998. Peutz-Jeghers syndrome is caused by mutations in a novel serine/threonine kinase. *Nat. Genet.* 18: 38-43.
6. Hemminki, A., et al. 1998. A serine/threonine kinase gene defective in Peutz-Jeghers syndrome. *Nature* 391: 184-187.
7. Baas, A.F., et al. 2003. Activation of the tumour suppressor kinase LKB1 by the Ste20-like pseudokinase STRAD. *EMBO J.* 22: 3062-3072.
8. Milburn, C.C., et al. 2004. Crystal structure of MO25  $\alpha$  in complex with the C-terminus of the pseudo kinase Ste20-related adaptor. *Nat. Struct. Mol. Biol.* 11: 193-200.

## CHROMOSOMAL LOCATION

Genetic locus: STRADA (human) mapping to 17q23.3.

## SOURCE

STRAD (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of STRAD of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-34102 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

STRAD (N-13) is recommended for detection of STRAD of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

STRAD (N-13) is also recommended for detection of STRAD in additional species, including equine, canine and porcine.

Suitable for use as control antibody for STRAD siRNA (h): sc-45241, STRAD shRNA Plasmid (h): sc-45241-SH and STRAD shRNA (h) Lentiviral Particles: sc-45241-V.

Molecular Weight (predicted) of STRAD: 48 kDa.

Molecular Weight (observed) of STRAD: 40-45 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. 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.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **STRAD (4E4): sc-293230**, our highly recommended monoclonal alternative to STRAD (N-13).