

# MO25 (J-24): sc-130821

## 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 and MO25 determine the sub-cellular localization of LKB1 by initiating its translocation from the nucleus to the cytoplasm, thus regulating the tumor suppressor activity of LKB1. The LKB1/STRAD/MO25 complex acts as an AMP-activated protein kinase kinase (AMPKK).

## REFERENCES

- Jenne, D.E., Reimann, H., Nezu, J., Friedel, W., Loff, S., Jeschke, R., Muller, O., Back, W. and Zimmer, M. 1998. Peutz-Jeghers syndrome is caused by mutations in a novel serine/threonine kinase. *Nat. Genet.* 18: 38-43.
- Boudeau, J., Scott, J.W., Resta, N., Deak, M., Kieloch, A., Komander, D., Hardie, D.G., Prescott, A.R., van Aalten, D.M. and Alessi, D.R. 2004. Analysis of the LKB1/STRAD/MO25 complex. *J Cell Sci.* 117: 6365-6375.
- Taylor, E.B., Hurst, D., Greenwood, L.J., Lamb, J.D., Cline, T.D., Sudweeks, S.N. and Winder, W.W. 2004. Endurance training increases LKB1 and MO25 protein but not AMP-activated protein kinase kinase activity in skeletal muscle. *Am. J. Physiol. Endocrinol. Metab.* 287: E1082-E1089.
- Baas, A.F., Smit, L. and Clevers, H. 2004. LKB1 tumor suppressor protein: PARtaker in cell polarity. *Trends Cell Biol.* 14: 312-319.
- Jaleel, M., McBride, A., Lizcano, J.M., Deak, M., Toth, R., Morrice, N.A. and Alessi, D.R. 2005. Identification of the sucrose non-fermenting related kinase SNRK, as a novel LKB1 substrate. *FEBS Lett.* 579: 1417-1423.
- Taylor, E.B., Ellingson, W.J., Lamb, J.D., Chesser, D.G. and Winder, W.W. 2005. Long-chain acyl-CoA esters inhibit phosphorylation of AMP-activated protein kinase at threonine-172 by LKB1/STRAD/MO25. *Am. J. Physiol. Endocrinol. Metab.* 288: E1055-E1061.

## CHROMOSOMAL LOCATION

Genetic locus: CAB39 (human) mapping to 2q37.1.

## SOURCE

MO25 (J-24) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of MO25 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml 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

MO25 (J-24) is recommended for detection of MO25 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 MO25 siRNA (h): sc-61065, MO25 shRNA Plasmid (h): sc-61065-SH and MO25 shRNA (h) Lentiviral Particles: sc-61065-V.

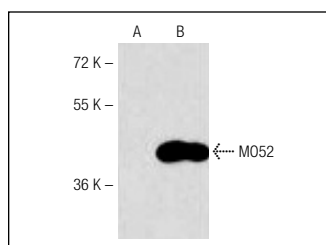
Molecular Weight of MO25: 40 kDa.

Positive Controls: human brain tissue.

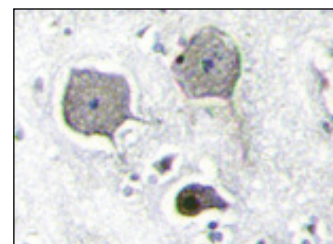
## RECOMMENDED SECONDARY REAGENTS

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 A Blocking Reagent: sc-2333 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 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



MO25 (J-24): sc-130821. Western blot analysis of MO25 expression in non-transfected (A) and human MO25 transfected (B) 293 whole cell lysates.



MO25 (J-24): sc-130821. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human brain tissue showing cytoplasmic localization.

## RESEARCH USE

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

## PROTOCOLS

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