

Support: 877-678-TECH (8324)
info@cellsignal.com

Orders: 877-616-CELL (2355)
orders@cellsignal.com

New 05/14

For Research Use Only. Not For Use In Diagnostic Procedures.

Description: Each control slide contains formalin fixed, paraffin-embedded cell pellets, LNCaP (LKB1 positive) and A549 (LKB1 negative), that serve as a control for LKB1 immunostaining.

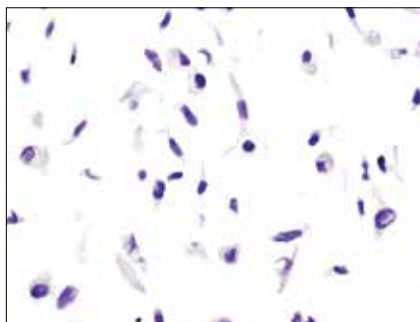
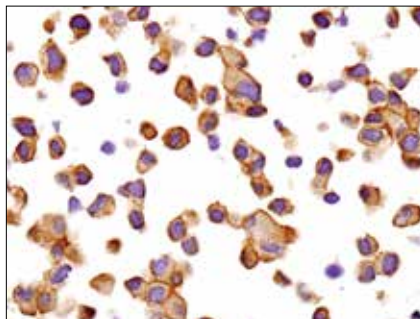
Background: LKB1 (STK11) is a serine/threonine kinase and tumor suppressor that helps control cell structure, apoptosis and energy homeostasis through regulation of numerous downstream kinases (1,2). A cytosolic protein complex comprised of LKB1, putative kinase STRAD, and the MO25 scaffold protein, activates both AMP-activated protein kinase (AMPK) and several AMPK-related kinases (3). AMPK plays a predominant role as the master regulator of cellular energy homeostasis, controlling downstream effectors that regulate cell growth and apoptosis in response to cellular ATP concentrations (4). LKB1 appears to be phosphorylated in cells at several sites, including human LKB1 at Ser31/325/428 and Thr189/336/363 (5).

Mutation in the corresponding LKB1 gene causes Peutz-Jeghers syndrome (PJS), an autosomal dominant disorder characterized by benign GI tract polyps and dark skin lesions of the mouth, hands, and feet (6). A variety of other LKB1 gene mutations have been associated with the formation of sporadic cancers in several tissues (7).

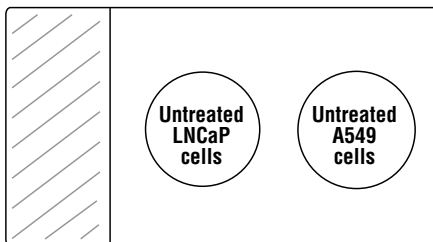
Applications: These slides are intended for use in immunohistochemical assays. Please see Related Products for a list of products that can be used with these slides.

Background References:

- (1) Baas, A.F. et al. (2004) *Trends Cell Biol* 14, 312-9.
- (2) Marignani, P.A. (2005) *J Clin Pathol* 58, 15-9.
- (3) Lizcano, J.M. et al. (2004) *EMBO J* 23, 833-43.
- (4) Hardie, D.G. (2004) *J Cell Sci* 117, 5479-87.
- (5) Sapkota, G.P. et al. (2002) *Biochem J* 362, 481-90.
- (6) Jenne, D.E. et al. (1998) *Nat Genet* 18, 38-43.
- (7) Sanchez-Cespedes, M. (2007) *Oncogene* 26, 7825-32.



Immunohistochemical analysis of paraffin-embedded LNCaP (upper) and A549 (lower) cell pellets using LKB1 (D60C5F10) Rabbit mAb (IHC Formulated) #13031.



Storage: Store at 4°C.

Optimal staining is achieved if slides are stained following CST's standard IHC protocols and are used within 8 weeks of assay date; however, signals may persist beyond two months.

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