Revision 1

Store at -20C

#3054

Phospho-LKB1 (Thr189) Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Transfected Only	54	Rabbit	#Q15831	6794

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-LKB1 (Thr189) Antibody detects transfected levels of LKB1 only when phosphorylated at threonine 189. The antibody does not cross-react with LKB1 phosphorylated at other sites.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr189 of human LKB1. Antibodies are purified by protein A and peptide affinity chromatography.

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).

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.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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Limited Uses

force or effect.

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