

#9157 Store at -20°C

Phospho-LATS1 (Ser909) Antibody

- Small 100 µl (10 Western mini-blot)
- Petite 40 µl (4 Western mini-blot)



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This product is for *in vitro* research use only and is not intended for use in humans or animals. This product is not intended for use as a therapeutic or in diagnostic procedures.

Applications W Endogenous	Species Cross-Reactivity* H, (M, R, Mk)	Molecular Wt. 140 kDa	Source Rabbit**
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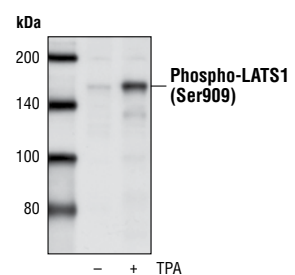
Background: LATS1 (Large tumor suppressor 1) is putative serine/threonine kinase that belongs to the NDR family (1). It is a tumor suppressor that plays a critical role in maintenance of ploidy. LATS1 localizes to the centrosome and the mitotic spindle and controls G(2)/M transition by negatively regulating CDC2 kinase activity (2,3). It also plays a role in the G1 tetraploidy checkpoint via control of p53 expression (4).

LATS1 affects cytokinesis by regulating actin polymerization through negative modulation of LIMK1 (5). LATS1 also binds the phosphorylated form of zyxin, a regulator of actin filament assembly. This interaction promotes localization of zyxin to the mitotic spindle, suggesting a role for actin regulatory proteins during mitosis (6). Decreased expression is associated with breast tumor aggressiveness (7), and promoter methylation, loss of heterozygosity, and mutations perturbing LATS1 have been associated with human sarcomas and ovarian sarcomas (8,9). LATS1 knock out mice develop soft-tissue sarcomas, ovarian stromal cell tumors and display a high sensitivity to carcinogenic treatments (10).

It has recently been shown that human LATS1 exists in a complex similar to the Drosophila Hippo/Salvador/Lats tumor suppressor network, a complex that regulates proliferation and apoptosis to control growth and shape of the fly. The human complex contains Hippo and Salvador homologs RASSF1A, WW45 and also MST2 and may control mitotic exit (11).

Specificity/Sensitivity: Phospho-LATS1 (Ser909) Antibody detects endogenous levels of total LATS1 protein only when phosphorylated on Ser909.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide (KLH-coupled) corresponding to amino acids surrounding Ser909 of human LATS1. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from HeLa cells, either untreated or treated with TPA, using Phospho-LATS1 (Ser909) Antibody.

Background References:

- (1) Tao, W. et al. (1999) *Nat Genet* 21, 177–81.
- (2) Yang, X. et al. (2001) *Oncogene* 20, 6516–23.
- (3) Xia, H. et al. (2002) *Oncogene* 21, 1233–41.
- (4) Iida, S. et al. (2004) *Oncogene* 23, 5266–74.
- (5) Yang, X. et al. (2004) *Nat Cell Biol* 6, 609–17.
- (6) Hirota, T. et al. (2000) *J Cell Biol* 149, 1073–86.
- (7) Morinaga, N. et al. (2000) *Int J Oncol* 17, 1125–9.
- (8) Hansen, L.L. et al. (2002) *Cancer Genet Cytogenet* 139, 1–8.
- (9) Hisaoka, M. et al. (2002) *Lab Invest* 82, 1427–35.
- (10) St John, M.A. et al. (1999) *Nat Genet* 21, 182–6.
- (11) Guo, C. et al. (2007) *Curr Biol* 17, 700–5.

Entrez-Gene ID # 9113
Swiss-Prot Acc. # O95835

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.

***Species cross-reactivity is determined by Western blot.**
****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:
 Western blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

- Companion Products:**
- LATS1 Antibody 9153
 - Phototope®-HRP Western Blot Detection System, Anti-rabbit IgG, HRP-linked Antibody #7071
 - Anti-rabbit IgG, HRP-linked Antibody #7074
 - Prestained Protein Marker, Broad Range (Premixed Format) #7720
 - Biotinylated Protein Ladder #7727
 - 20X LumiGLO® Reagent and 20X Peroxide #7003

Please visit www.cellsignal.com for a complete listing of recommended companion products.

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

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E—ELISA E-P—ELISA Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebra fish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.