

# LATS1 (G-16): sc-12494

## BACKGROUND

The *Drosophila* tumor suppressor protein lats (for large tumor suppressor) is a putative protein kinase that shares homology with three proteins in *Neurospora* and budding yeast that are involved in cell cycle and growth regulation: *S. cerevisiae* Dbf2 and Dbf20, and *Neurospora* cot-1. Mosaic screens in *Drosophila* have identified the lats gene as a tumor suppressor in this species. The human homolog, designated LATS1, was shown to inhibit tumor growth in lats-deficient *Drosophila*. Human LATS1 binds to Cdc2 in early mitosis and appears to negatively regulate the kinase activity of Cdc2. LATS1-deficient mice are highly sensitive to carcinogenic treatments and develop soft-tissue sarcomas and ovarian stromal cell tumors, indicating a role for mammalian LATS1 in tumorigenesis.

## REFERENCES

1. Johnston, L.H., et al. 1990. The product of the *Saccharomyces cerevisiae* cell cycle gene DBF2 has homology with protein kinases and is periodically expressed in the cell cycle. *Mol. Cell. Biol.* 10: 1358-1366.
2. Yarden, O., et al. 1992. cot-1, a gene required for hyphal elongation in *Neurospora crassa*, encodes a protein kinase. *EMBO J.* 11: 2159-2166.

## CHROMOSOMAL LOCATION

Genetic locus: LATS1 (human) mapping to 6q25.1; Lats1 (mouse) mapping to 10 A1.

## SOURCE

LATS1 (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of LATS1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12494 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

LATS1 (G-16) is recommended for detection of LATS1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

LATS1 (G-16) is also recommended for detection of LATS1 in additional species, including equine, bovine, porcine and avian.

Suitable for use as control antibody for LATS1 siRNA (h): sc-35797, LATS1 siRNA (m): sc-35798, LATS1 shRNA Plasmid (h): sc-35797-SH, LATS1 shRNA Plasmid (m): sc-35798-SH, LATS1 shRNA (h) Lentiviral Particles: sc-35797-V and LATS1 shRNA (m) Lentiviral Particles: sc-35798-V.

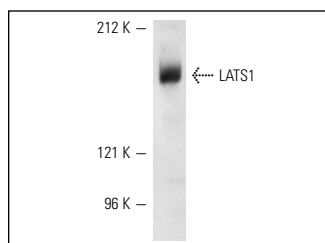
Molecular Weight of LATS1: 150 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



LATS1 (G-16): sc-12494. Western blot analysis of LATS1 expression in A-431 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Yang, X., et al. 2004. LATS1 tumour suppressor affects cytokinesis by inhibiting LIMK-1. *Nat. Cell Biol.* 6: 609-617.
2. Rutherford, S., et al. 2006. Chromosome 6 deletion and candidate tumor suppressor genes in adenoid cystic carcinoma. *Cancer Lett.* 236: 309-317.
3. Humbert, N., et al. 2010. Regulation of ploidy and senescence by the AMPK-related kinase Nuak1. *EMBO J.* 29: 376-386.
4. Romano, D., et al. 2013. The differential effects of wild-type and mutated K-Ras on MST2 signaling are determined by K-Ras activation kinetics. *Mol. Cell. Biol.* 33: 1859-1868.

## STORAGE

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

## RESEARCH USE

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

**MONOS**  
Satisfaction  
Guaranteed

Try **LATS1 (G-12): sc-398560**, our highly recommended monoclonal alternative to LATS1 (G-16).