

LATS1 (D.25): sc-130429

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

- 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.
- 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.
- Toyn, J.H., et al. 1994. The Dbf2 and Dbf20 protein kinases of budding yeast are activated after the metaphase to anaphase cell cycle transition. *EMBO J.* 13: 1103-1113.
- Xu, T., et al. 1995. Identifying tumor suppressors in genetic mosaics: the *Drosophila* lats gene encodes a putative protein kinase. *Development* 121: 1053-1063.
- Tao, W., et al. 1999. Human homologue of the *Drosophila melanogaster* lats tumour suppressor modulates Cdc2 activity. *Nat. Genet.* 21: 177-181.
- St. John, M.A., et al. 1999. Mice deficient of Lats1 develop soft-tissue sarcomas, ovarian tumours and pituitary dysfunction. *Nat. Genet.* 21: 182-186.

CHROMOSOMAL LOCATION

Genetic locus: LATS1 (human) mapping to 6q25.1.

SOURCE

LATS1 (D.25) is a mouse monoclonal antibody raised against recombinant LATS1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

LATS1 (D.25) is recommended for detection of LATS1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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

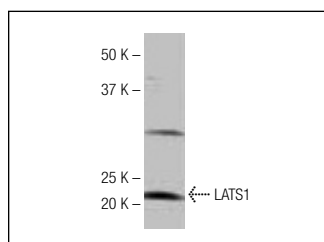
Molecular Weight of LATS1: 150 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotting 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).

DATA



LATS1 (D.25): sc-130429. Western blot analysis of LATS1 expression in HeLa whole cell lysate.

RESEARCH USE

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