



Rabbit Anti-LATS1 antibody

SL2904R

Product Name:	LATS1
Chinese Name:	Tumour抑制基因LATS1抗体
Alias:	Large tumor suppressor homolog 1; Serine threonine protein kinase LATS1; WARTS; WARTS protein kinase; LATS1_HUMAN.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Chicken,Pig,Cow,Horse,Rabbit,
Applications:	WB=1:500-2000ELISA=1:500-1000IHC-P=1:400-800 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	124kDa
Cellular localization:	cytoplasmic
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human LATS1:821-950/1130
Isotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	The protein encoded by this gene is a putative serine/threonine kinase that localizes to the mitotic apparatus and complexes with cell cycle controller CDC2 kinase in early mitosis. The protein is phosphorylated in a cell-cycle dependent manner, with late prophase phosphorylation remaining through metaphase. The N-terminal region of the protein binds CDC2 to form a complex showing reduced H1 histone kinase activity, indicating a role as a negative regulator of CDC2/cyclin A. In addition, the C-terminal

kinase domain binds to its own N-terminal region, suggesting potential negative regulation through interference with complex formation via intramolecular binding. Biochemical and genetic data suggest a role as a tumor suppressor. This is supported by studies in knockout mice showing development of soft-tissue sarcomas, ovarian stromal cell tumors and a high sensitivity to carcinogenic treatments. [provided by RefSeq].

Function:

Negative regulator of YAP1 in the Hippo signaling pathway that plays a pivotal role in organ size control and tumor suppression by restricting proliferation and promoting apoptosis. The core of this pathway is composed of a kinase cascade wherein STK3/MST2 and STK4/MST1, in complex with its regulatory protein SAV1, phosphorylates and activates LATS1/2 in complex with its regulatory protein MOB1, which in turn phosphorylates and inactivates YAP1 oncoprotein and WWTR1/TAZ. Phosphorylation of YAP1 by LATS1 inhibits its translocation into the nucleus to regulate cellular genes important for cell proliferation, cell death, and cell migration. Acts as a tumor suppressor which plays a critical role in maintenance of ploidy through its actions in both mitotic progression and the G1 tetraploidy checkpoint. Negatively regulates G2/M transition by down-regulating CDK1 kinase activity. Involved in the control of p53 expression. Affects cytokinesis by regulating actin polymerization through negative modulation of LIMK1. May also play a role in endocrine function.

Subunit:

Complexes with CDK1 in early mitosis. LATS1-associated CDK1 has no mitotic cyclin partner and no apparent kinase activity. Binds phosphorylated ZYX, locating this protein to the mitotic spindle and suggesting a role for actin regulatory proteins during mitosis. Binds to and colocalizes with LIMK1 at the actomyosin contractile ring during cytokinesis. Interacts (via PPxY motif 2) with YAP1 (via WW domains). Interacts with MOB1A and MOB1B. Interacts with LIMD1, WTIP and AJUBA.

Subcellular Location:

Cytoplasm, cytoskeleton, centrosome. Note=Localizes to the centrosomes throughout interphase but migrates to the mitotic apparatus, including spindle pole bodies, mitotic spindle, and midbody, during mitosis.

Tissue Specificity:

Expressed in all adult tissues examined except for lung and kidney.

Post-translational modifications:

Autophosphorylated and phosphorylated during M-phase of the cell cycle. Phosphorylated by STK3/MST2 at Ser-909 and Thr-1079, which results in its activation. Phosphorylated upon DNA damage, probably by ATM or ATR. Phosphorylation at Ser-464 by NUA1 and NUA2 leads to decreased protein level and is required to regulate cellular senescence and cellular ploidy.

Similarity:

Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family.

Contains 1 AGC-kinase C-terminal domain.
Contains 1 protein kinase domain.
Contains 1 UBA domain.

SWISS:
O95835

Gene ID:
9113

Database links:

[Entrez Gene: 9113](#)Human

[Entrez Gene: 16798](#)Mouse

[Entrez Gene: 308265](#)Rat

[Oimim: 603473](#)Human

[SwissProt: O95835](#)Human

[SwissProt: Q8BYR2](#)Mouse

[Unigene: 716697](#)Human

[Unigene: 34083](#)Mouse

[Unigene: 29152](#)Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.