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LATS1 Recombinant Rabbit mAb

Catalog # AP97046

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q9NRM7
Other Accession	Q9NRM7
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Recombinant
Calculated MW	120136
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
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.
SUBUNIT	Interacts with and is phosphorylated by AURKA. Binds to AR. Interacts with AJUBA during mitosis and this complex regulates organization of the spindle apparatus through recruitment of gamma-tubulin to the centrosome. Interacts (via PPxY motif) with YAP1 (via WW domains). Interacts with MOB1A and MOB1B. Interacts with LIMD1, WTIP and AJUBA.
Post-translational modifications	Autophosphorylated and phosphorylated during M-phase and the G1/S-phase of the cell cycle. Phosphorylated and activated by STK3/MST2.
Background Descriptions	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 treatmen

Additional Information

Gene ID	26524
Other Names	KPM; 4932411G09Rik; LATS2_HUMAN; LATS2; Kinase phosphorylated during mitosis protein; Large tumor suppressor homolog 2; Serine/threonine-protein kinase kpm; Warts-like kinase; 2.7.11.1; LATS2_MOUSE; large tumor suppressor kinase 1; LATS (large tumor suppressor, Drosophila) homolog 1; LATS, large tumor suppressor, homolog 1 (Drosophila);

	Serine/threonine-protein kinase LATS1 (Large tumor suppressor homolog 1) (WARTS protein kinase) (h-warts); Serine/threonine-protein kinase LATS1; Large tumor suppressor homolog 1; WARTS protein kinase; h-warts
Dilution	IHC-P=1:50-200,IHC-F=1:50-200,WB=1:500-2000,IF=1:50-200,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. 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.

Protein Information

Name	LATS2 {ECO:0000312|EMBL:BAA92381.1}
Synonyms	KPM
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 (PubMed:18158288, PubMed:26437443, PubMed:26598551, PubMed:34404733). 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 (PubMed:26437443, PubMed:26598551, PubMed:34404733). Phosphorylation of YAP1 by LATS2 inhibits its translocation into the nucleus to regulate cellular genes important for cell proliferation, cell death, and cell migration (PubMed:26598551, PubMed:34404733). Also phosphorylates YAP1 in response to cell contact inhibition-driven WWP1 ubiquitination of AMOTL2, which results in LATS2 activation (PubMed:34404733). Acts as a tumor suppressor which plays a critical role in centrosome duplication, maintenance of mitotic fidelity and genomic stability (PubMed:10871863). Negatively regulates G1/S transition by down-regulating cyclin E/CDK2 kinase activity (PubMed:12853976). Negative regulator of the androgen receptor (PubMed:15131260). Phosphorylates SNAI1 in the nucleus leading to its nuclear retention and stabilization, which enhances its epithelial-mesenchymal transition and tumor cell invasion/migration activities (PubMed:21952048). This tumor-promoting activity is independent of its effects upon YAP1 or WWTR1/TAZ (PubMed:21952048). Acts as an activator of the NLRP3 inflammasome by mediating phosphorylation of 'Ser-265' of NLRP3 following NLRP3 palmitoylation, promoting NLRP3 activation by NEK7 (PubMed:39173637).
Cellular Location	Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm. Cytoplasm, cytoskeleton, spindle pole Nucleus. Note=Colocalizes with AURKA at the centrosomes during interphase, early prophase and cytokinesis. Migrates to the spindle poles during mitosis, and to the midbody during cytokinesis Translocates to the nucleus upon mitotic stress by nocodazole treatment
Tissue Location	Expressed at high levels in heart and skeletal muscle and at lower levels in all other tissues examined

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