abcam

ab314122

Anti-LATS1/WARTS (phospho S909) + LATS2 (phospho S872) antibody [EPR27262-6]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR27262-6
Purification technique	Affinity purification Protein A
Concentration	0.512 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Dot

Tested

Species	Synthetic peptide
Dilution info	1/1000
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Not recommended

Species	Synthetic peptide, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Synthetic peptide, Mouse, Rat
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat, Synthetic peptide
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat, Synthetic peptide
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Synthetic peptide, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information LATS1 phospho S909

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:10518011, PubMed:10831611, PubMed:18158288, PubMed:26437443, PubMed:28068668). 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:18158288, PubMed:26437443, PubMed:28068668).

Phosphorylation of YAP1 by LATS1 inhibits its translocation into the nucleus to regulate cellular genes important for cell proliferation, cell death, and cell migration (PubMed:18158288, PubMed:26437443, PubMed:28068668). 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 (PubMed:15122335, PubMed:19927127). Negatively regulates G2/M transition by down-regulating CDK1 kinase activity (PubMed:9988268). Involved in the control of p53 expression (PubMed:15122335). Affects cytokinesis by regulating actin polymerization through negative modulation of LIMK1 (PubMed:15220930). May also play a role in endocrine function. Plays a role in mammary gland epithelial cell differentiation, both through the Hippo signaling pathway and the intracellular estrogen receptor signaling pathway by promoting the degradation of ESR1 (PubMed:28068668). 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).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The LATS1/LATS2 proteins also called WARTS are serine-threonine kinases involved in the Hippo signaling pathway with molecular masses of about 122 kDa and 104 kDa respectively. LATS1 and LATS2 are expressed in various tissues including the heart lung and liver. They work by phosphorylating other proteins which regulates cell proliferation and apoptosis. LATS proteins are found in the cytoplasm and can move into the nucleus influencing processes important for maintaining cellular homeostasis.
Biological function summary	LATS1 and LATS2 are part of the core Hippo signaling complex playing roles in controlling cell growth and organ size. They achieve this by inhibiting the transcription co-activator YAP/TAZ preventing excessive cell division and promoting programmed cell death when needed. This regulation ensures proper development and suppresses tumor formation. LATS proteins act as tumor suppressors preventing the overgrowth of cells that could lead to cancerous transformations.
Pathways	LATS1 and LATS2 integrate into the Hippo signaling and apoptotic pathways. In the Hippo pathway these kinases partner with MOB1 to phosphorylate YAP/TAZ preventing their translocation into the nucleus where they might trigger oncogenic gene expression. They also interact with other proteins like MST1/2 kinases within the Hippo cascade ensuring tight regulation of cell proliferation and death.
Associated diseases and disorders	LATS1 and LATS2 are linked to cancer development and liver diseases. Dysregulation or mutations in these proteins can lead to unchecked cell growth posing a risk for cancers particularly liver cancer. Research shows that their interaction with other oncogenes like KRAS or tumor suppressors like p53 further influences their role in carcinogenesis. Additionally alterations in the Hippo pathway involving LATS proteins contribute to liver conditions potentially leading to hepatic disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

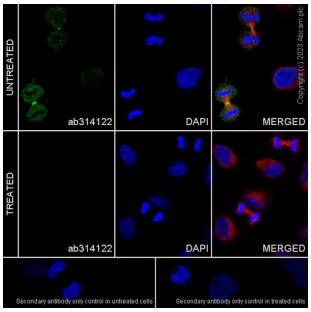
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

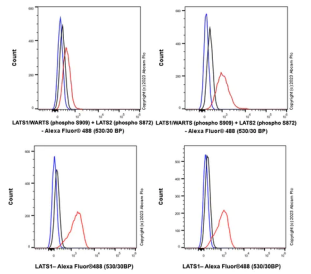
Full details and terms and conditions can be found here:
Terms & Conditions.

3 product images



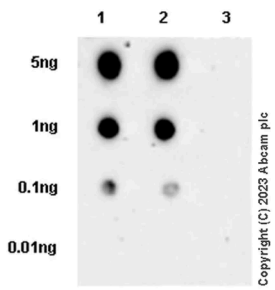
Immunocytochemistry/ Immunofluorescence - Anti-LATS1/WARTS (phospho S909) + LATS2 (phospho S872) antibody [EPR27262-6] (ab314122)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling LATS1/WARTS (phospho S909) + LATS2 (phospho S872) with ab314122 at 1/100 (5.12 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green). Confocal image showing cytoplasmic and midbody staining in HeLa cells in M phase. Signal decreases after alkaline phosphatase treatment at 37☒ for 2h. Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8)ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.



Flow Cytometry (Intracellular) - Anti-LATS1/WARTS (phospho S909) + LATS2 (phospho S872) antibody [EPR27262-6] (ab314122)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa treated with phosphatase at 37 ☒ overnight (human cervical adenocarcinoma epithelial cell) (Left) / Untreated HeLa (Right) cells labelling LATS1/WARTS (phospho S909) + LATS2 (phospho S872) with ab314122 at 1/50 dilution (1 ug)/Red (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody. The bottom data shows total level of LATS1 is not affected by phosphatase treatment at 37 ☒ overnight.



Dot Blot - Anti-LATS1/WARTS (phospho S909) + LATS2 (phospho S872) antibody [EPR27262-6] (ab314122)

Dot blot analysis of LATS1/WARTS (phospho S909) + LATS2 (phospho S872) using ab314122 at 1:1000 (0.512 ug/ml) followed by a Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1:100,000 dilution. Exposure time: 180 seconds Blocking and diluting buffer and concentration: 5% NFDM/TBST

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.