abcam

ab264475

Anti-LATS1/WARTS antibody [EPR23057-116] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR23057-116
Purification technique	Affinity purification Protein A
Concentration	1.007 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-

Notes	-

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human, Mouse
Dilution info	-
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

Target data

See full target information LATS1

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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab264475 is the carrier-free version of ab243656.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	LATS1/WARTS also known as Large Tumor Suppressor 1 is a serine/threonine protein kinase with a molecular mass of approximately 125 kDa. Its expression is found in various tissue types including skin lung and liver. Mechanically LATS1/WARTS plays a critical role in regulating the cell cycle and maintaining genomic stability. This kinase is an essential part of the Hippo signaling pathway and contributes to controlling the size of organs by inhibiting cell proliferation and promoting apoptosis.
Biological function summary	LATS1/WARTS functions as an important regulator of cellular growth and differentiation. It is part of the Hippo signaling complex which includes proteins like MST1/2 and YAP/TAZ. This complex helps maintain proper tissue homeostasis by modulating gene expression in response to cellular density and mechanical cues. In doing so LATS1/WARTS phosphorylates and inactivates downstream effectors YAP and TAZ preventing them from translocating to the nucleus where they could promote transcription of growth-promoting genes.
Pathways	Scientists have found LATS1/WARTS to be integral to both the Hippo signaling pathway and the cell cycle regulation pathway. Within these pathways LATS1/WARTS interacts closely with proteins such as MOB1 and YAP mediating cellular responses to growth inhibitory signals. By controlling these interactions LATS1/WARTS helps coordinate cell proliferation and apoptosis which is critical for proper developmental processes and prevention of tumor growth.
Associated diseases and disorders	Dysregulation of LATS1/WARTS function is associated with the development of cancers particularly in the liver and breast. Research also links LATS1/WARTS to neurodegenerative conditions by implicating its role in apoptosis and cell survival.

When its kinase activity is compromised the regulatory balance maintained by the Hippo pathway is disrupted potentially leading to unchecked cell proliferation. Connections with proteins such as YAP and TAZ further illustrate its involvement in these pathological conditions showing its importance in maintaining cellular integrity and function.

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

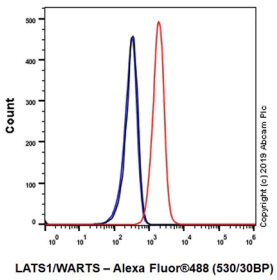
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images



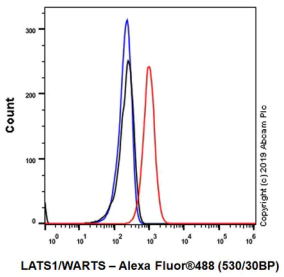
Flow Cytometry (Intracellular) - Anti-LATS1/WARTS antibody [EPR23057-116] - BSA and Azide free (ab264475)

LATS1/WARTS Flow Cytometry (Intracellular) staining of HeLa (human cervix adenocarcinoma epithelial cell) cells using rabbit Anti-LATS1/WARTS antibody

This data was developed using ab243656, the same antibody clone in a different buffer formulation.

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed, 90% methanol permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labelling LATS1/WARTS with ab243656 at 1/500 dilution (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, ab150077) at 1/2000 dilution was used as the secondary antibody.

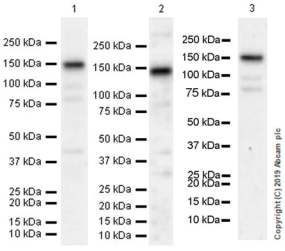


Flow Cytometry (Intracellular) - Anti-LATS1/WARTS antibody [EPR23057-116] - BSA and Azide free (ab264475)

LATS1/WARTS Flow Cytometry (Intracellular) staining of NIH/3T3 (mouse embryonic fibroblast) cells using rabbit Anti-LATS1/WARTS antibody

This data was developed using ab243656, the same antibody clone in a different buffer formulation.

Intracellular flow cytometric analysis of 4% paraformaldehyde, fixed 90% methanol permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling LATS1/WARTS with ab243656 at 1/500 dilution (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, ab150077) at 1/2000 dilution was used as the secondary antibody.



Western blot - Anti-LATS1/WARTS antibody [EPR23057-116] - BSA and Azide free (ab264475)

LATS1/WARTS Western blot staining using rabbit Anti-LATS1/WARTS antibody

This data was developed using ab243656, the same antibody clone in a different buffer formulation.

Blocking and dilution buffer: 5% NFDM/TBST.

Exposure times.

Lane 1:81 seconds;

Lanes 2-3: 3 minutes

The molecular weight observed is consistent with what has been described in the literature (PMID: 30293781).

Bands below 150KD are likely to be degraded LATS1 (PMID: 23573293).

Lysates should be made fresh and used in WB immediately to minimize protein degradation.

All lanes:
Western blot - Anti-LATS1/WARTS antibody [EPR23057-116] (ab243656) at 1/1000 dilution

Lane 1:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 10 µg

Lane 2:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

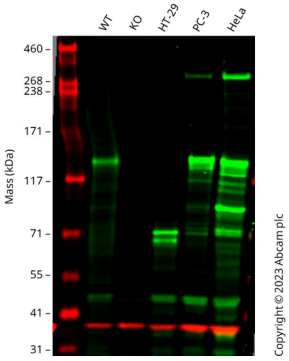
Lane 3:
PC-12 (rat adrenal gland pheochromocytoma) whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 126 kDa

Observed band size: 150 kDa



Western blot - Anti-LATS1/WARTS antibody [EPR23057-116] - BSA and Azide free (ab264475)

LATS1/WARTS Western blot staining using rabbit Anti-LATS1/WARTS antibody

This data was developed using ab243656, the same antibody clone in a different buffer formulation.

Western blot: Anti-LATS1 antibody [EPR23057-116] (ab243656) staining at 1/2000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (ab8245) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab243656 was shown to bind specifically to LATS1. A band was observed at 127 kDa in wild-type THP-1 cell lysates with no signal observed at this size in LATS1 knockout cell line. To generate this image, wild-type and LATS1 knockout THP-1 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.

All lanes:
Western blot - Anti-LATS1/WARTS antibody [EPR23057-116] (ab243656) at 1/2000 dilution

Lane 1:
Wild-type THP-1 cell lysate at 20 µg

Lane 2:
Western blot - Human LATS1 (WARTS) knockout THP-1 cell line (ab277862)

Lane 2:
LATS1 knockout THP-1 cell lysate at 20 µg

Lane 3:
HT-29 cell lysate at 20 µg

Lane 4:
PC-3 cell lysate at 20 µg

Lane 5:
HeLa cell lysate at 20 µg

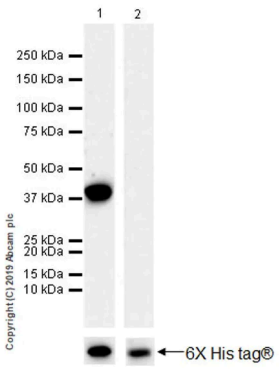
Secondary

All lanes:
Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 126 kDa

Observed band size: 127 kDa



Western blot - Anti-LATS1/WARTS antibody [EPR23057-116] - BSA and Azide free (ab264475)

LATS1/WARTS Western blot staining using rabbit Anti-LATS1/WARTS antibody

This data was developed using ab243656, the same antibody clone in a different buffer formulation.

Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 3 minutes.

Samples loaded are extracts of *E.coil* expressing either LATS1 or LATS2.

All lanes:
Western blot - Anti-LATS1/WARTS antibody [EPR23057-116] (ab243656) at 1/1000 dilution

Lane 1:
His-tagged human LATS1 recombinant protein at 10 ng

Lane 2:
His-tagged human LATS2 recombinant protein at 10 ng

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 126 kDa

Exposure time: 3min

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