abcam

ab109630

Anti-LIS1 antibody [EPR3335(2)]

Recombinant | RabMAb

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	EPR3335(2)
Purification technique	Affinity purification Protein A
Concentration	0.382 - 0.385 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information PAFAH1B1

Function	Regulatory subunit (beta subunit) of the cytosolic type I platelet-activating factor (PAF) acetylhydrolase (PAF-AH (I)), an enzyme that catalyzes the hydrolyze of the acetyl group at the sn-2 position of PAF and its analogs and participates in PAF inactivation. Regulates the PAF-AH (I) activity in a catalytic dimer composition-dependent manner (By similarity). Required for proper activation of Rho GTPases and actin polymerization at the leading edge of locomoting cerebellar neurons and postmigratory hippocampal neurons in response to calcium influx triggered via NMDA receptors (By similarity). Positively regulates the activity of the minus-end directed microtubule motor protein dynein. May enhance dynein-mediated microtubule sliding by targeting dynein to the microtubule plus end. Required for several dynein- and microtubule-dependent processes such as the maintenance of Golgi integrity, the peripheral transport of microtubule fragments and the coupling of the nucleus and centrosome. Required during brain development for the proliferation of neuronal precursors and the migration of newly formed neurons from the ventricular/subventricular zone toward the cortical plate. Neuronal migration involves a process called nucleokinesis, whereby migrating cells extend an anterior process into which the nucleus subsequently translocates. During nucleokinesis dynein at the nuclear surface may translocate the nucleus towards the centrosome by exerting force on centrosomal microtubules. May also play a role in other forms of cell locomotion including the migration of fibroblasts during wound healing. Required for dynein recruitment to microtubule plus ends and BICD2-bound cargos (PubMed:22956769). May modulate the Reelin pathway through interaction of the PAF-AH (I) catalytic dimer with VLDLR (By similarity).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

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	LIS1 also known as PAFAH1B1 is a protein with a molecular mass of approximately 45 kDa. It plays a significant role in cellular and developmental processes by stabilizing microtubules and facilitating intracellular transport. LIS1 expresses ubiquitously with notable presence in the brain and other neural tissues. It interacts with dynein motor complexes guiding the transport of cellular components along microtubules and is essential in mitosis and neuronal migration.
Biological function summary	LIS1 influences neuronal migration during brain development. It forms a complex with dynein and other proteins like NDEL1 which is important for distributing organelles and proteins in the neuron. This dynein-LIS1 complex ensures proper positioning of the nucleus during cell division and migration. It also regulates the alignment of chromosomes warranting correct cytoskeleton organization and cell polarity.
Pathways	LIS1 is deeply involved in neurodevelopmental pathways and the stabilization of the cytoskeleton. The protein is a central player in the Reelin signaling pathway which is essential for layering neurons during cortical development. LIS1 cooperates with other components such as the DISC1 and DCX to ensure proper functioning within these pathways. These interactions are vital for maintaining proper brain structure and neural circuitry.
Associated diseases and disorders	LIS1 mutations are linked to lissencephaly a disorder characterized by abnormal neuronal migration resulting in a smooth brain structure. This condition stems from disruptions in the mechanisms regulating microtubule dynamics and nuclear positioning during neuronal development. The protein interacts with TUBA1A another protein implicated in lissencephaly affecting the stability and function of microtubules. Disorders such as Miller-Dieker syndrome also relate to abnormalities in LIS1 highlighting its critical role in neurodevelopment.

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.

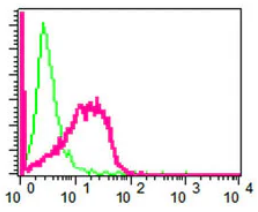
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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Terms & Conditions.

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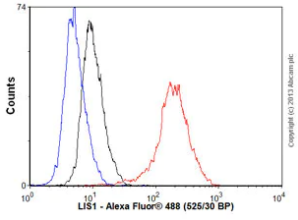
3 product images



Flow Cytometry (Intracellular) - Anti-LIS1 antibody [EPR3335(2)] (ab109630)

LIS1 Flow Cytometry (Intracellular) staining using rabbit Anti-LIS1 antibody

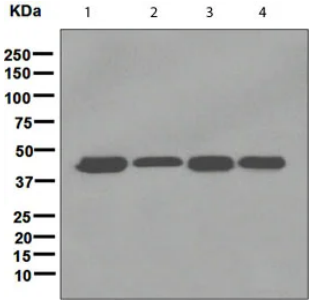
Intracellular flow cytometric analysis of permeabilized HeLa cells using ab109630 at a dilution of 1/10 (red) or a rabbit IgG (negative) (green).



Flow Cytometry (Intracellular) - Anti-LIS1 antibody [EPR3335(2)] (ab109630)

LIS1 Flow Cytometry (Intracellular) staining using rabbit Anti-LIS1 antibody

Overlay histogram showing SHSY-5Y cells stained with ab109630 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab109630 1/10000 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. This antibody gave a positive signal in SHSY-5Y cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Western blot - Anti-LIS1 antibody [EPR3335(2)] (ab109630)

All lanes:
Western blot - Anti-LIS1 antibody [EPR3335(2)] (ab109630) at 1/1000 dilution

Lane 1:
Human fetal brain lysate at 10 µg

Lane 2:

HeLa cell lysate at 10 µg

Lane 3:
SH-SY5Y cell lysate at 10 µg

Lane 4:
293T cell lysate at 10 µg

Predicted band size: 47 kDa

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