abcam

ab324354

Anti-SLC7A5/LAT1 antibody [EPR29892-591]

Recombinant | RabMAb | Advanced Validation | 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	EPR29892-591
Purification technique	Affinity purification Protein A
Concentration	0.52 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/5000
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

mIHC

Tested

Species	Mouse
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Human
Dilution info	-
Notes	-

Target data

See full target information Slc7a5

Function	The heterodimer with SLC3A2 functions as a sodium-independent, high-affinity transporter that mediates uptake of large neutral amino acids such as phenylalanine, tyrosine, histidine, met hionine, tryptophan, valine, isoleucine and alanine (By similarity). The heterodimer with SLC3A2 mediates the uptake of L-DOPA and leucine (PubMed:11011012, PubMed:9915839). Functions as an amino acid exchanger (By similarity). May play a role in the transport of L-DOPA across the blood-brain barrier (PubMed:11011012). May act as the major transporter of tyrosine in fibroblasts (By similarity). May mediate blood-to-retina L-leucine transport across the inner blood-retinal barrier (By similarity). Can mediate the transport of thyroid hormones diiodothyronine (T2), triiodothyronine (T3) and thyroxine (T4) across the cell membrane. When associated with LAPTM4B, the

heterodimer formed by SLC3A2 and SLC7A5 is recruited to lysosomes to promote leucine uptake into these organelles, and thereby mediates mTORC1 activation. Involved in the uptake of toxic methylmercury (MeHg) when administered as the L-cysteine or D,L-homocysteine complexes. Involved in the cellular activity of small molecular weight nitrosothiols, via the stereoselective transport of L-nitrosocysteine (L-CNSO) across the membrane (By similarity).

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.

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.

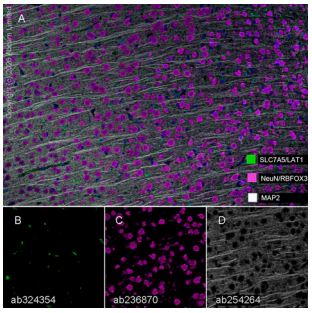
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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13 product images



Multiplex immunohistochemistry - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354)

SLC7A5/LAT1 Multiplex immunohistochemistry staining of Mouse cerebrum using rabbit Anti-SLC7A5/LAT1 antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded mouse cerebrum tissue staining SLC7A5/LAT1 with ab324354 at a 1/2000 dilution, ab236870 anti-NeuN/RBFOX3 used at 1/10000 dilution and ab254264 anti-MAP2 used at a 1/4000 dilution. Panel A: anti-SLC7A5/LAT1 (green; Opal™520), anti-NeuN/RBFOX3 (magenta; Opal™690) and anti-MAP2 (gray; Opal™570) on mouse cerebrum.

Panel B: anti-SLC7A5/LAT1 staining blood vessels in mouse cerebrum.

Panel C: anti-NeuN/RBFOX3 staining nucleus of neurons in mouse cerebrum.

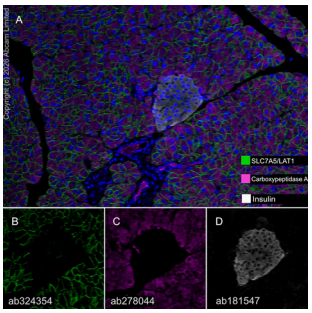
Panel D: anti-MAP2 staining cell body and dendrites of neurons in mouse cerebrum.

Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab324354, ab236870 and ab254264 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Multiplex immunohistochemistry - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354)

SLC7A5/LAT1 Multiplex immunohistochemistry staining of Mouse pancreas using rabbit Anti-SLC7A5/LAT1 antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded mouse pancreas tissue staining SLC7A5/LAT1 with ab324354 at a 1/2000 dilution, ab278044 anti-Carboxypeptidase A used at 1/4000 dilution and ab181547 anti-Insulin used at a 1/20000 dilution. Panel A: anti-SLC7A5/LAT1 (green; Opal™520), anti-Carboxypeptidase A (magenta; Opal™690) and anti-Insulin (gray; Opal™570) on mouse pancreas.

Panel B: anti-SLC7A5/LAT1 staining membrane in mouse pancreas.

Panel C: anti-Carboxypeptidase A staining acinar cells in mouse pancreas.

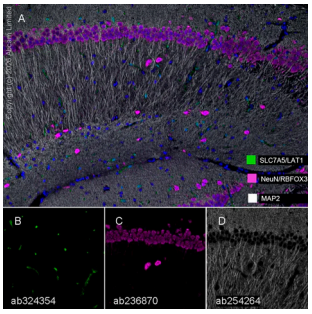
Panel D: anti-Insulin staining islet cells in mouse pancreas.

Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab324354, ab278044 and ab181547 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Multiplex immunohistochemistry - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354)

SLC7A5/LAT1 Multiplex immunohistochemistry staining of Mouse hippocampus using rabbit Anti-SLC7A5/LAT1 antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded mouse hippocampus tissue staining SLC7A5/LAT1 with ab324354 at a 1/2000 dilution, ab236870 anti-NeuN/RBFOX3 used at 1/10000 dilution and ab254264 anti-MAP2 used at a 1/4000 dilution. Panel A: anti-SLC7A5/LAT1 (green; Opal™520), anti-NeuN/RBFOX3 (magenta; Opal™690) and anti-MAP2 (gray; Opal™570) on mouse hippocampus.

Panel B: anti-SLC7A5/LAT1 staining blood vessels in mouse hippocampus.

Panel C: anti-NeuN/RBFOX3 staining nucleus of neurons in mouse hippocampus.

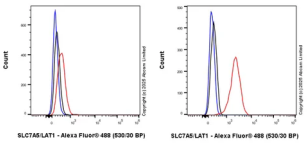
Panel D: anti-MAP2 staining cell body and dendrites of neurons in mouse hippocampus.

Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab324354, ab236870 and ab254264 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



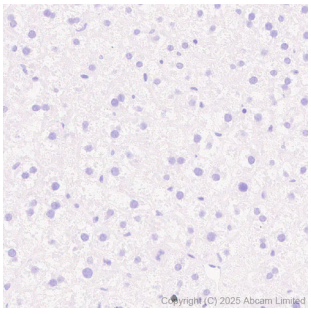
Flow Cytometry - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354)

SLC7A5/LAT1 Flow Cytometry staining using rabbit Anti-SLC7A5/LAT1 antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized mIMCD3 (mouse inner medullary collecting duct epithelial cell, Left) / F9 (mouse embryonal carcinoma epithelial cell, Right) cells labelling SLC7A5/LAT1 with ab324354 at 1/5000 dilution (0.01ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Low expression: mIMCD3.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354)

SLC7A5/LAT1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse liver using rabbit Anti-SLC7A5/LAT1 antibody

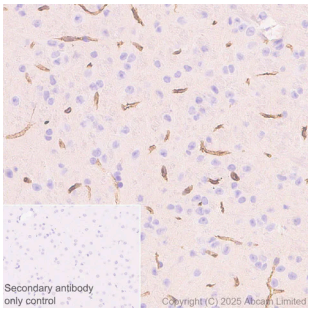
Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling SLC7A5/LAT1 with ab324354 at 1/2000 (0.256 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on mouse liver. The primary antibody was incubated for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354)

SLC7A5/LAT1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse cerebrum using rabbit Anti-SLC7A5/LAT1 antibody

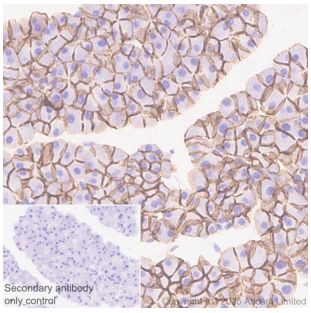
Immunohistochemical analysis of paraffin-embedded Mouse cerebrum tissue labeling SLC7A5/LAT1 with ab324354 at 1/2000 (0.256 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on blood vessels of mouse cerebrum (PMID: 11011012). The primary antibody was incubated for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354)

SLC7A5/LAT1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse pancreas using rabbit Anti-SLC7A5/LAT1 antibody

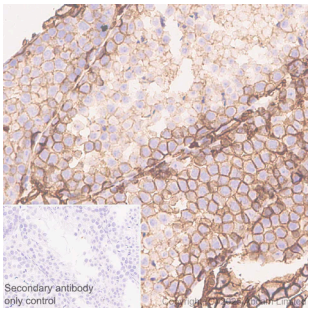
Immunohistochemical analysis of paraffin-embedded Mouse pancreas tissue labeling SLC7A5/LAT1 with ab324354 at 1/2000 (0.256 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse pancreas. The primary antibody was incubated for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354)

SLC7A5/LAT1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse testis using rabbit Anti-SLC7A5/LAT1 antibody

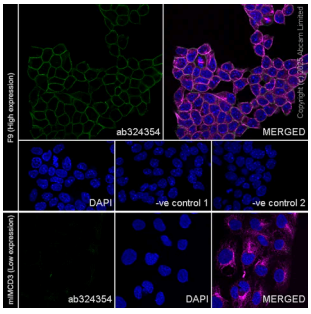
Immunohistochemical analysis of paraffin-embedded Mouse testis tissue labeling SLC7A5/LAT1 with ab324354 at 1/2000 (0.256 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse testis. The primary antibody was incubated for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunocytochemistry/ Immunofluorescence - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354)

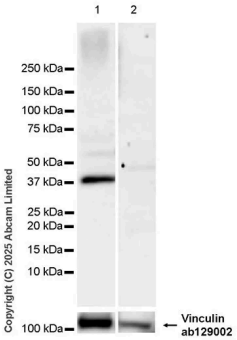
SLC7A5/LAT1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SLC7A5/LAT1 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized F9 (mouse embryonal carcinoma epithelial cell) cells labelling SLC7A5/LAT1 with ab324354 at 1/500 (1.024 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 membranous staining in F9 cell line and weak staining in mIMCD3 cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue).
Low expression: mIMCD3.
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab7291 Anti-alpha Tubulin mouse monoclonal antibody was used to counterstain tubulin at 1/1000 (1 ug/ml) dilution, followed by ab150120 Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) antibody at 1/1000 (2 ug/ml) dilution (Magenta).

-ve control 1: ab324354 at 1/2000 dilution, followed by ab150120 Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) antibody at 1/1000 dilution. -ve control 2: ab7291 at 1/1000 dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution.



Western blot - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354)

SLC7A5/LAT1 Western blot staining using rabbit Anti-SLC7A5/LAT1 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Low expression: liver (PMID: 27912058).

The identity of the band higher than 50 kDa is unknown.

In Western blot, Anti-Vinculin antibody [EPR8185] (ab129002) staining at 1/10000 dilution.

All lanes:
Western blot - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354) at 1/1000 dilution

Lane 1:
Mouse ovary tissue lysate at 72 µg

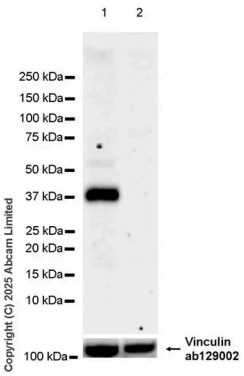
Lane 2:
Mouse liver tissue lysate at 72 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 37 kDa, 124 kDa

Exposure time: 6s



Western blot - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354)

SLC7A5/LAT1 Western blot staining using rabbit Anti-SLC7A5/LAT1 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Low expression: brown fat.

The identity of the band higher than 50 kDa is unknown.

In Western blot, Anti-Vinculin antibody [EPR8185] (ab129002) staining at 1/10000 dilution.

All lanes:
Western blot - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354) at 1/1000 dilution

Lane 1:
Mouse testis tissue lysate at 50 µg

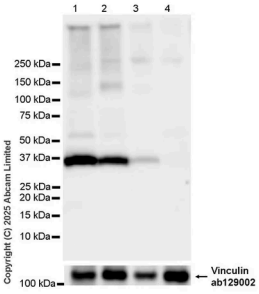
Lane 2:
Mouse brown fat lysate at 50 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 37 kDa, 124 kDa

Exposure time: 180s



Western blot - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354)

SLC7A5/LAT1 Western blot staining using rabbit Anti-SLC7A5/LAT1 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Low expression: RAW 264.7, mIMCD3.

The identity of the bands higher than 50 kDa are unknown.

In Western blot, Anti-Vinculin antibody [EPR8185] (ab129002) staining at 1/10000 dilution.

All lanes:
Western blot - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354) at 1/1000 dilution

Lane 1:
F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate at 72 µg

Lane 2:
P815 (mouse mastocytoma mast cell) whole cell lysate at 72 µg

Lane 3:
RAW 264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) whole cell lysate at 72 µg

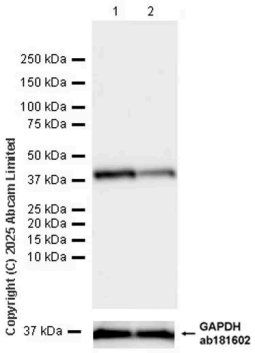
Lane 4:
mIMCD3 (mouse inner medullary collecting duct epithelial cell) whole cell lysate at 72 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 37 kDa, 124 kDa

Exposure time: 6s



Western blot - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354)

SLC7A5/LAT1 Western blot staining using rabbit Anti-SLC7A5/LAT1 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-SLC7A5/LAT1 antibody [EPR29892-591] (ab324354) at 1/1000 dilution

Lane 1:
F9 (mouse embryonal carcinoma epithelial cell) transfected with scrambled siRNA control whole cell lysate at 40 µg

Lane 2:
F9 transfected with siRNA specifically targeting SLC7A5/LAT1 whole cell lysate at 40 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 37 kDa

Exposure time: 26s

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