Product datasheet

Anti-SLC7A5/LAT1 antibody ab111106

Overview

Product name: Anti-SLC7A5/LAT1 antibody
Description: Rabbit polyclonal to SLC7A5/LAT1
Host species: Rabbit
Tested applications: Suitable for: ICC/IF, WB, IHC-P, IHC-Fr
Species reactivity: Reacts with: Human
Predicted to work with: Mouse, Rat
Immunogen: Synthetic peptide from the internal region of Human SLC7A5 conjugated to an immunogenic carrier protein.
Positive control: This antibody gave a positive result when used in the following formaldehyde fixed cell lines: Malme-3M

Properties

Form: Liquid
Storage instructions: Shipped at 4°C. Store at +4°C short term (1-2 weeks). Add glycerol to a final volume of 50% for extra stability and aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer: Constituent: Whole serum
Purity: Whole antiserum
Clonality: Polyclonal
Isotype: IgG

Applications

Our Abpromise guarantee covers the use of ab111106 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>ICC/IF</td>
<td></td>
<td>1/200.</td>
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<tr>
<td>WB</td>
<td>3 2 1 1 1</td>
<td>1/300 - 1/2000. Predicted molecular weight: 55 kDa.</td>
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<tr>
<td>Application</td>
<td>Abreviews</td>
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<tr>
<td>IHC-P</td>
<td></td>
<td>1/300 - 1/2000. Antigen retrieval is recommended.</td>
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### Target

#### Function
Sodium-independent, high-affinity transport of large neutral amino acids such as phenylalanine, tyrosine, leucine, arginine and tryptophan, when associated with SLC3A2/4F2hc. Involved in cellular amino acid uptake. Acts as an amino acid exchanger. Involved in the transport of L-DOPA across the blood-brain barrier, and that of thyroid hormones triiodothyronine (T3) and thyroxine (T4) across the cell membrane in tissues such as placenta. Plays a role in neuronal cell proliferation (neurogenesis) in brain. Involved in the uptake of methylmercury (MeHg) when administered as the L-cysteine or D,L-homocysteine complexes, and hence plays a role in metal ion homeostasis and toxicity. Involved in the cellular activity of small molecular weight nitrosothiols, via the stereoselective transport of L-nitrosocysteine (L-CNSO) across the transmembrane. May play an important role in high-grade gliomas. Mediates blood-to-retina L-leucine transport across the inner blood-retinal barrier which in turn may play a key role in maintaining large neutral amino acids as well as neurotransmitters in the neural retina. Acts as the major transporter of tyrosine in fibroblasts.

#### Tissue specificity
Expressed abundantly in adult lung, liver, brain, skeletal muscle, placenta, bone marrow, testis, resting lymphocytes and monocytes, and in fetal liver. Weaker expression in thymus, cornea, retina, peripheral leukocytes, spleen, kidney, colon and lymph node. During gestation, expression in the placenta was significantly stronger at full-term than at the mid-trimester stage. Also expressed in all human tumor cell lines tested and in the astrocytic process of primary astrocytic gliomas. Expressed in retinal endothelial cells and in the intestinal epithelial cell line Caco-2.

#### Sequence similarities
Belongs to the amino acid-polyamine-organocation (APC) superfamily. L-type amino acid transporter (LAT) (TC 2.A.3.8) family.

#### Cellular localization
Cytoplasm > cytosol. Apical cell membrane. Located to the plasma membrane by SLC3A2/4F2hc. Localized to the apical membrane of placental syncytiotrophoblastic cells. Expressed in both luminal and abluminal membranes of brain capillary endothelial cells.

### Images
Immunocytochemistry/ Immunofluorescence - Anti-SLC7A5 antibody (ab111106)

ICC/IF image of ab111106 stained MALME-3M cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab111106 at 1/200 dilution overnight at +4°C. The secondary antibody (pseudo-colored green) was Alexa Fluor® 488 goat anti-rabbit (ab150081) IgG (H+L) preadsorbed, used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (pseudo-colored red) at a 1/200 dilution for 1h at room temperature. DAPI was used to stain the cell nuclei (pseudo-colored blue) at a concentration of 1.43µM for 1hour at room temperature.

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