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Goat Anti-LAT1 / SLC7A5 Antibody
Peptide-affinity purified goat antibody
Catalog # AF2185a

Specification

Goat Anti-LAT1 / SLC7A5 Antibody - Product Information

Application	**WB, E**
Primary Accession	Q01650
Other Accession	NP_003477, 8140
Reactivity	**Human**
Predicted	**Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**55010**

Goat Anti-LAT1 / SLC7A5 Antibody - Additional Information

Gene ID 8140

Other Names
Large neutral amino acids transporter small subunit 1, 4F2 light chain, 4F2 LC, 4F2LC, CD98 light chain, Integral membrane protein E16, L-type amino acid transporter 1, hLAT1, Solute carrier family 7 member 5, y+ system cationic amino acid transporter, SLC7A5, CD98LC, LAT1, MPE16

Dilution
WB~~1:1000
E~~N/A

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-LAT1 / SLC7A5 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-LAT1 / SLC7A5 Antibody - Protein Information

Name 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, leucine, histidine, methionine, tryptophan, valine, isoleucine and alanine (PubMed:10049700, PubMed:10574970, PubMed:11557028, PubMed:11564694, PubMed:12117417, PubMed:12225859, PubMed:15769744, PubMed:18262359, PubMed:25998567, PubMed:30867591, PubMed:9751058). The heterodimer with SLC3A2 mediates the uptake of L-DOPA (By similarity). Functions as an amino acid exchanger (PubMed:11557028, PubMed:12117417, PubMed:12225859, PubMed:30867591). May play a role in the transport of L-DOPA across the blood-brain barrier (By similarity). May act as the major transporter of tyrosine in fibroblasts (Probable). 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 (PubMed:11564694). 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 (PubMed:25998567). Involved in the uptake of toxic methylmercury (MeHg) when administered as the L-cysteine or D,L- homocysteine complexes (PubMed:12117417). Involved in the cellular activity of small molecular weight nitrosothiols, via the stereoselective transport of L-nitrosocysteine (L-CNSO) across the membrane (PubMed:15769744).

Cellular Location
Apical cell membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Lysosome membrane; Multi-pass membrane protein. Note=Located to the plasma membrane by SLC3A2/4F2hc (PubMed:9751058). Localized to the apical membrane of placental syncytiotrophoblastic cells (PubMed:11742812). Recruited to lysosomes by LAPTM4B (PubMed:25998567).

Tissue Location
Detected in placenta, in the syncytiotrophoblast layer (at protein level) (PubMed:11389679). 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.

Goat Anti-LAT1 / SLC7A5 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot

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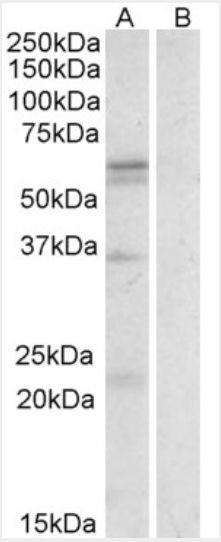
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-LAT1 / SLC7A5 Antibody - Images



AF2185a (0.3 µg/ml) staining of Human Spleen lysate (35 µg protein in RIPA buffer) with (B) and without (A) blocking with the immunising peptide. Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-LAT1 / SLC7A5 Antibody - References

Impact of system L amino acid transporter 1 (LAT1) on proliferation of human ovarian cancer cells: a possible target for combination therapy with anti-proliferative aminopeptidase inhibitors. Fan X, et al. Biochem Pharmacol, 2010 Sep 15. PMID 20510678.
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CD98 expression is associated with poor prognosis in resected non-small-cell lung cancer with lymph node metastases. Kaira K, et al. Ann Surg Oncol, 2009 Dec. PMID 19777189.
L-type amino acid transporter 1 expression is a prognostic marker in patients with surgically resected stage I non-small cell lung cancer. Imai H, et al. Histopathology, 2009 Jun. PMID 19635099.
LAT1 expression in non-small-cell lung carcinomas: analyses by semiquantitative reverse transcription-PCR (237 cases) and immunohistochemistry (295 cases). Takeuchi K, et al. Lung Cancer, 2010 Apr. PMID 19559497.