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SLC7A5 / CD98 Light Chain Antibody
Rabbit Polyclonal Antibody
Catalog # ALS16300

Specification

SLC7A5 / CD98 Light Chain Antibody - Product Information

Application	**IHC, WB**
Primary Accession	Q01650
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**55kDa KDa**

SLC7A5 / CD98 Light Chain 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

Reconstitution & Storage
Store at -20°C for up to one year.

Precautions
SLC7A5 / CD98 Light Chain Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

SLC7A5 / CD98 Light Chain 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:9751058, PubMed:10049700, PubMed:11557028, PubMed:10574970, PubMed:11564694, PubMed:12117417, PubMed:12225859, PubMed:25998567, PubMed:30867591, PubMed:18262359, PubMed:15769744). 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.

Volume
50 µl

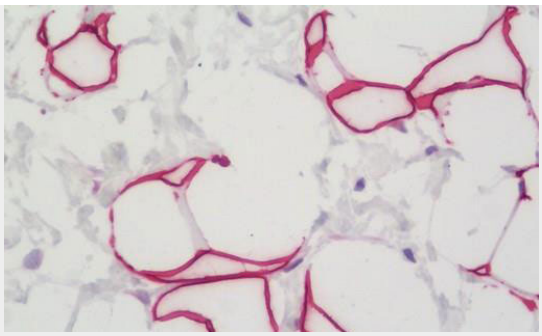
SLC7A5 / CD98 Light Chain Antibody - Protocols

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

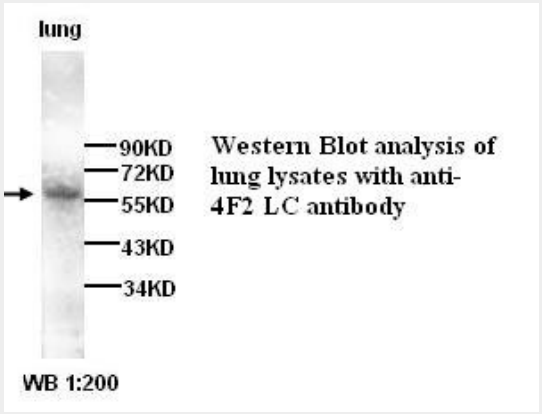
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SLC7A5 / CD98 Light Chain Antibody - Images

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Human Breast: Formalin-Fixed, Paraffin-Embedded (FFPE)



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SLC7A5 / CD98 Light Chain Antibody - Background

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.

SLC7A5 / CD98 Light Chain Antibody - References

Mastroberardino L.,et al.Nature 395:288-291(1998).
Prasad P.D.,et al.Biochem. Biophys. Res. Commun. 255:283-288(1999).
Tsurudome M.,et al.J. Immunol. 162:2462-2466(1999).
Yanagida O.,et al.Biochim. Biophys. Acta 1514:291-302(2001).
Minato N.,et al.Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.