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LAT2 Rabbit pAb

Catalog # AP98401

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9UHI5
Other Accession	Q9UHI5
Reactivity	Rat
Predicted	Pig, Orangutan, Human, Mouse, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	58382
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human LAT2
Epitope Specificity	1-100/353
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the amino acid-polyamine-organocation (APC) superfamily. L-type amino acid transporter (LAT) (TC 2.A.3.8) family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	L-amino acid transporter protein-2 (LAT2), a non-glycosylated membrane protein, complexes with CD98 to contribute to readsorption of neutral amino acids in renal epithelia and blood-tissue barriers. The gene encoding LAT2 is expressed primarily in the kidney, but also to a lesser extent in placenta, brain, liver, spleen, skeletal muscle, heart, small intestine, and lung. Transfection with the antisense sequence of LAT2 suggests that LAT2 expression plays a major role in net basolateral efflux of cysteine, and points to LAT2 as a candidate gene to modulate cysteine reabsorption. In addition, the CD98/LAT2 heterodimer associates with Integrin ∫1 in intestinal epithelial cells, where ligand binding to CD98 and another cell surface molecule, ICAM-1 differentially regulates LAT2 activity, suggesting a novel mechanism by which events like cell adhesion may affect amino acid transport activity.

Additional Information

Gene ID	23428
Other Names	LAT2; LPI-PC1; 4F2LC-5; Lat4; LAT2_HUMAN; SLC7A8; L-type amino acid transporter 2 (hLAT2); Solute carrier family 7 member 8; LAT2_MOUSE; L-type amino acid transporter 2 (mLAT2); LAT2_PONAB; L-type amino acid transporter 2; LAT2_RABIT; 4F2-LC5; LAT2_RAT; solute carrier family 7 (amino acid transporter light chain, L system), member 8
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500

Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	SLC7A8 (HGNC:11066)
Function	Associates with SLC3A2 to form a functional heterodimeric complex that translocates small and large neutral amino acids with broad specificity and a stoichiometry of 1:1. Functions as amino acid antiporter mediating the influx of extracellular essential amino acids mainly in exchange with the efflux of highly concentrated intracellular amino acids (PubMed:10391915, PubMed:11311135, PubMed:11847106, PubMed:12716892, PubMed:15081149, PubMed:15918515, PubMed:29355479, PubMed:33298890, PubMed:34848541). Has relatively symmetrical selectivities but strongly asymmetrical substrate affinities at both the intracellular and extracellular sides of the transporter (PubMed:11847106). This asymmetry allows SLC7A8 to regulate intracellular amino acid pools (mM concentrations) by exchange with external amino acids (uM concentration range), equilibrating the relative concentrations of different amino acids across the plasma membrane instead of mediating their net uptake (PubMed:10391915, PubMed:11847106). May play an essential role in the reabsorption of neutral amino acids from the epithelial cells to the bloodstream in the kidney (PubMed:12716892). 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 (PubMed:12117417). Involved in the cellular activity of small molecular weight nitrosothiols, via the stereoselective transport of L-nitrosocysteine (L-CNSO) across the transmembrane (PubMed:15769744). Imports the thyroid hormone diiodothyronine (T2) and to a smaller extent triiodothyronine (T3) but not rT 3 or thyroxine (T4) (PubMed:26305885). Mediates the uptake of L-DOPA (By similarity). May participate in auditory function (By similarity). Mediates the uptake of leucine and 3-iodo-L-tyrosine (MIT) (PubMed:26305885). Mediates the uptake of 3,5-diiodo-L-tyrosine (DIT) (PubMed:38661522).
Cellular Location	Cell membrane; Multi-pass membrane protein. Basolateral cell membrane; Multi-pass membrane protein. Note=Localized to the cytoplasm when expressed alone but when coexpressed with SLC3A2/4F2hc, is localized to the plasma membrane. Colocalized with SLC3A2/4F2hc at the basolateral membrane of kidney cortex proximal tubules and small intestine epithelia of the villi.
Tissue Location	Strongest expression is observed in kidney and moderate expression in placenta and brain, followed by liver, prostate, testis, ovary, lymph node, thymus, spleen, skeletal muscle and heart Also expressed in fetal liver as well as in the retinal pigment epithelial cell line ARPE-19 and the intestinal epithelial cell line Caco-2.

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