

Anti Human L-type Amino Acid Transporter 1 (LAT1) Polyclonal Antibody

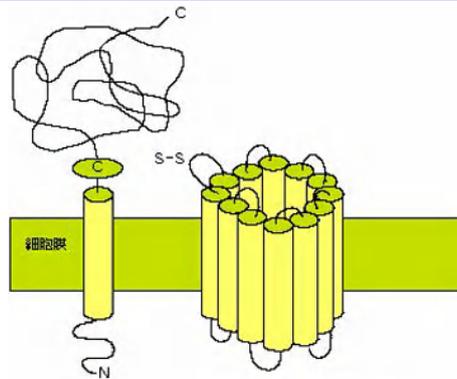
Mammalian amino acid transport system is consisted of large variety of transporters, with the reflection of amino acid molecule variety, and is classified into various transport systems by the transportative substrate selectivity and the Na⁺ dependence with the reflection of amino acid molecule variety.

L-type amino acid transporter 1 (LAT1) is a predicted 12 membrane-spanning protein and is unique because it requires an additional single membrane spanning protein, 4F2 heavy chain (4F2hc:CD98), for its functional expression. L-type is Na⁺-independent neutral amino acid transporter agency and essential for the transporter of large neutral amino acid such as Leucine, Isoleucine, Valine through the plasma membrane. LAT1 is, thus transporter responsible for the permeation of aromatic or branched-chain amino acids and amino acid-related drugs such as L-DOPA. LAT has been proposed to be one of the major nutrient transport systems at the blood-brain barrier. Highly regulated nature and high level of expression in tumor cell lines, LAT is thought to be up-regulated to support the high protein synthesis for cell growth and cell activation.

This antibody has been proved to be useful for the immunohistochemistry.

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| Package Size | 25 μ g (250 μ L / Vial) |
| Format | Rabbit polyclonal antibody 0.1mg/ml |
| Buffer | Block Ace as a stabilizer, containing 0.1%Proclin as bacteriostat |
| Storage | Store below -20°C until needed Once thawed, store at 4°C. Repeated freeze-thaw cycles should be avoided. |
| Purification method | This antibody was purified from rabbit serum immunized with synthesized peptide of C- end of human LAT1 and has been proved to be useful for the immunohistochemistry |
| Working dilution for immunohistochemistry: | 5 - 10 μ g/mL |

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4F2hc LAT Transporter Family

Heterodimeric Complex

【Reference】

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2. Kanai Y., Segawa H., Miyamoto K., Uchino H., Takeda E., Endou H.: Expression cloning and characterization of a transporter for large neutral amino acids activated by the heavy chain of 4F2 antigen (CD98). *J. Biol. Chem.*273, 23629-23632,1998
3. Mastroberardino L, Spindler B., Pfeiffer R., Skelly PJ., Loffing J, Shoemaker CB., Verry F: Amino-acid transport by heterodimers of 4F2hc/CD98 and members of permease family. *Nature* 395:288-291,1998
4. Matsuo H., Tsukada S., Nakata T., Chairoungdua A., Kim D. K., Cha S. H. ,Inatomi J., Yorifuji H., Fukuda J., Endou H., Kanai.,:Expression of a system L neutral amino acid transporter at the blood-brain barrier *Neuroreport* 11 (16),3507-3511,2000
5. Yanagawa O., Kanai Y., Chairoungdua A., Kim D.K., Segawa H., Nii T., Cha S.H., Matsuo H., Fukushima J., Fukusawa Y., Tani Y., Taketani Y., Uchino H., Kim J.Y., Inatomi J., Okayasu I., Miyamoto K., Takeda E., Goya T., and Endou H.:Human L-type amino acid transporter 1 (LAT1): Characterization of function and expression in tumor cell lines. *Biochim.Biophys.Acta.*1514: 291-302,2001

Supplier

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