Trans Genic Inc.

Code No.KE023

For research use only

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

Mammalian amino acid transport system is consisted of large variety of transporters, with the reflection of amino acid molecule variety, and is clessfied 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, Varine 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 glowth and cell activation.

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

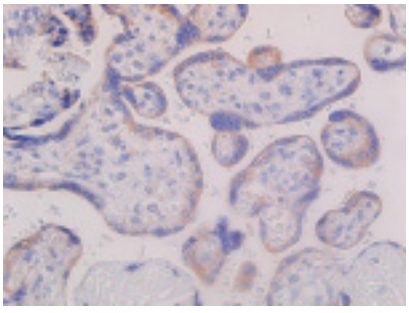
Package Size	20 μg (100 μL / Vial)
Format	Mouse monoclonal antibody 0.2mg/ml
Buffer	Block Ace as a stabilizer, containing 0.1%Proclin as bacteriostat
Storage	Store below -20℃ until needed
Clone No.	4D9
Subclass	IgM
Purification method	The spleen cells from mouse, immunized with the synthesized peptide of human C end of LAT-1, were fused with mouse P3U1 myeloma cells. The hybridoma cell line with positive reaction was grown in ascitic fluid of BALB/c mouse, from which the antibody was purified by Peptide affinity chromatography.

Working dilution for immunohistochemistry: 2-5 μg/mL

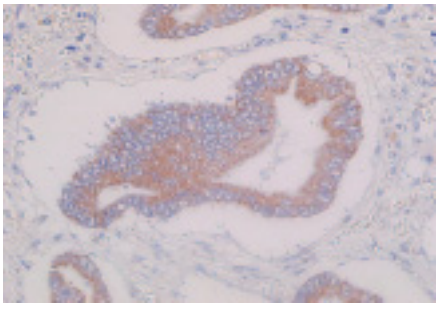
For more detail on the immunohistochemistry, refer to the immuno staining method.

HGNC 名 SLC7A5 (Solute Carrier family 7A5)

*HGNC: Human Gene Nomenclature Committee



Human syncytiotrophoblast



Human stomach papillary adenocarcinoma

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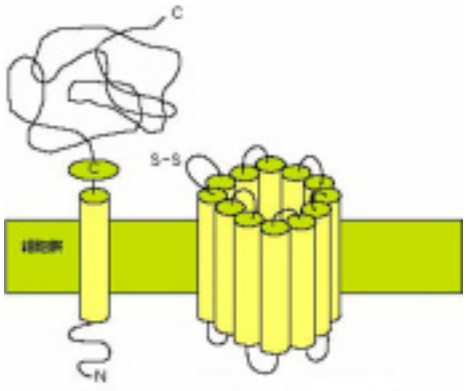

4F2hc　　LAT Transporter Family

Heterodimeric　　Complex

【Reference】

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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
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5. Yanagida O., Kanai Y., Chairoungdua A., Kim D.K., Segawa H., Nii T., Cha S.H., Matsuo H., Fukushima J., Fukasawa 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

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