

## Product datasheet for **RC208586**

### **LAT2 (SLC7A8) (NM\_012244) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	LAT2 (SLC7A8) (NM_012244) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	LAT2
Synonyms:	LAT2; LPI-PC1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RC208586 representing NM\_012244  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGGAAGAAGGAGCCAGGCACCGAAACAACACCGAAAAGAAACACCCAGGTGGGGCGAGTCGGACGCCA  
 GCCCGAGGCTGGTTCGGAGGGGGCGGAGTAGCCCTGAAGAAAGAGATCGGATTGGTCAGTCGCTGG  
 TATCATCGTAGGGAACATCATCGGCTCTGGAATCTTTGTCTCGCCAAAGGAGTGTGGAGAATGCTGGT  
 TCTGTGGGCTTGTCTCATCGTCTGGATTGTGACGGGCTTCATCACAGTTGTGGAGCCCTCTGTATG  
 CTGAACCTCGGGTCACCATCCCCAAATCTGGAGGTGACTACTCTATGTCAAGGACATCTTCGGAGGACT  
 GGCTGGGTTCTGAGGCTGTGGATTGCTGTGCTGGTGATCTACCCACCAACCAGGCTGCATCGCCCTC  
 ACCTTCTCCAACACGTGCTGCAGCCGCTTCCCCACCTGCTTCCCCCAGAGTCTGGCCTTCGGCTCC  
 TGGCTGCCATCTGCTTATTGCTCCTCACATGGTCAACTGTTCCAGTGTGCGGTGGGCCACCCGGGTTCA  
 AGACATCTTCACAGCTGGGAAGCTCCTGGCCTTGCCCTGATTATCATCATGGGGATTGTACAGATATGC  
 AAAGGAGAGTACTTCTGGCTGGAGCCAAAGAATGCATTTGAGAATTTCCAGGAACCTGACATCGGCCTCG  
 TCGCACTGGCTTTCCTTCAGGGCTCCTTTGCTATGGAGGCTGGAACCTTCTGAATTACGTGACTGAGGA  
 GCTTGTGATCCCTACAAGAACCTTCCCAGAGCCATCTTCATCTCCATCCCAGTGGTACATTTGTGTAT  
 GTCTTTGCCAATGTCGTTATGTCACTGCAATGTCCCCCAGGAGCTGTGGCATCCAACGCCGTCGCTG  
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 CCCAGTGTGTTGGCCATGATCCACGTGAAGCGCTGCACCCCAATCCCAGCCCTGCTTTCACATGCATCT  
 CCACCCTGCTGATGCTGGTCACCAAGTACATGTACACACTCATCAACTACGTGGGCTTTCACACTACCT  
 CTCTATGGGGTACGGTTGCTGGACAGATAGTCCCTTCGCTGGAAGAAGCCTGATATCCCCGCCCCATC  
 AAGATCAACCTGCTGTTCCCATCATCTACTTGTGTTCTGGGCCCTTCTGCTGGTCTTACGCTGTGGT  
 CAGAGCCGGTGGTGTGTGGCATTGGCCTGGCCATCATGCTGACAGGAGTGCCTGTCTATTTCTGGGTGT  
 TTAAGGCAACAAGCCCAAGTGTTCAGTGACTTCATTGAGCTGCTAACCTGGTGGAGCCAGAAGATG  
 TGTGTGGTGTGTACCCGAGGTGGAGCGGGCTCAGGGACAGAGGAGGCTAATGAGGACATGGAGGAGC  
 AGCAGCAGCCATGTACCAACCCACTCCCACGAAGGACAAGGACGTGGCGGGCAGCCCCAGCCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC208586 representing NM\_012244  
 Red=Cloning site Green=Tags(s)

MEEGARHRNTEKKHPGGESDASPEAGSGGGVALKKEIGLVSACGIIIVGNIIGSGIFVSPKGVLENAG  
 SVGLALIVWIVTGFITVVGALCYAELGVTIPKSGGDYSYVKDIFGGLAGFLRLWIAVLVIYPTNQAVIAL  
 TFSNYVLQPLFPTCFPPESGLRLLAAICLLLLTWVNCSSVRWATRVDIFTAGKLLALALIIIMGIVQIC  
 KGEYFWLEPKNAFENFQEPDIGLVALAFLQGSFAYGGWNFLNYVTEELVDPYKNLPRAIFISIPLVTFVY  
 VFANVAYVTAMSPQELLASNAVAVTFGEKLLGVMWIMPISVALSTFGGVNGLFTSSRLFFAGAREGHL  
 PSVLAMIHVKRCTPIPALLFTCISTLLMLVTSMDMYTLINYYVGFINYLFYGVTVAGQIVLRWKKPDIPRPI  
 KINLLFPIIYLLFWAFLLVFLWSEPVVCGIGLAIMLTGVPVYFLGVYQHKPKCFSDFIELLTLVSQKM  
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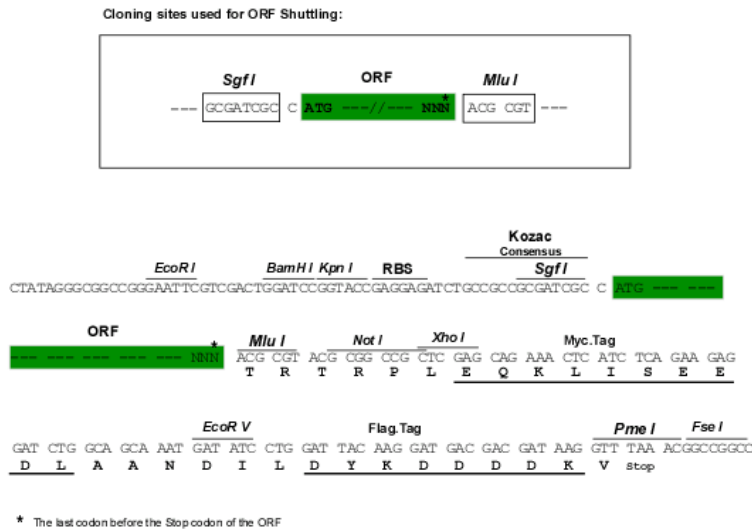
**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mg2643\\_b10.zip](https://cdn.origene.com/chromatograms/mg2643_b10.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_012244

**ORF Size:** 1605 bp

**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
  2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
  3. Close the tube and incubate for 10 minutes at room temperature.
  4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
  5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_012244.4](#)

**RefSeq Size:** 4237 bp

**RefSeq ORF:** 1608 bp

**Locus ID:** 23428

**UniProt ID:** [Q9UHI5](#)

**Cytogenetics:** 14q11.2

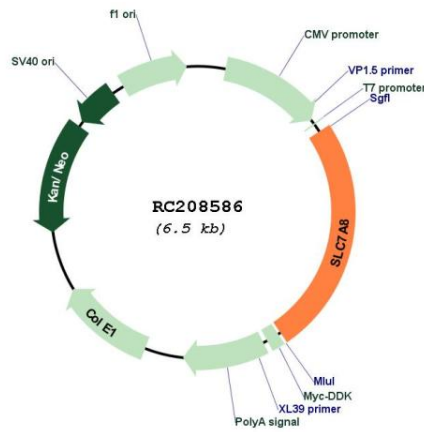
**Domains:** aa\_permeases

**Protein Families:** Druggable Genome, Transmembrane

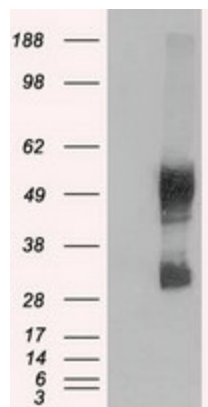
**MW:** 58.2 kDa

**Gene Summary:** Sodium-independent, high-affinity transport of small and large neutral amino acids such as alanine, serine, threonine, cysteine, phenylalanine, tyrosine, leucine, arginine and tryptophan, when associated with SLC3A2/4F2hc. Acts as an amino acid exchanger. Has higher affinity for L-phenylalanine than LAT1 but lower affinity for glutamine and serine. L-alanine is transported at physiological concentrations. Plays a role in basolateral (re)absorption of neutral amino acids. 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. Plays an essential role in the reabsorption of neutral amino acids from the epithelial cells to the bloodstream in the kidney.[UniProtKB/Swiss-Prot Function]

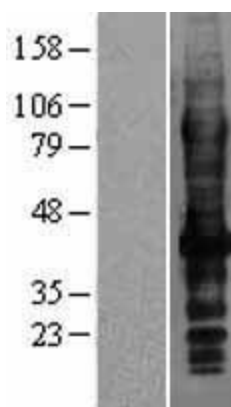
**Product images:**



Circular map for RC208586



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY SLC7A8 (Cat# RC208586, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-SLC7A8(Cat# [TA500503]). Positive lysates [LY402177] (100ug) and [LC402177] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY402177]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC208586 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).