

Product datasheet for **RG208586**

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:	TurboGFP
Symbol:	LAT2
Synonyms:	LAT2; LPI-PC1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG208586 representing NM_012244
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGAAGAAGGAGCCAGGCACCGAAACAACACCGAAAAGAACACCCAGGTGGGGCGAGTCGGACGCCA
 GCCCCGAGGCTGGTTCGGAGGGGGCGGAGTAGCCCTGAAGAAAGAGATCGGATTGGTCAGTGCCTGTGG
 TATCATCGTAGGGAACATCATCGGCTCTGGAATCTTTGTCTCGCCAAAGGAGTGTGGAGAATGCTGGT
 TCTGTGGGCTTGTCTCATCGTCTGGATTGTGACGGGCTTCATCACAGTTGTGGGAGCCCTCTGCTATG
 CTGAACCTCGGGTACCATCCCCAAATCTGGAGGTGACTACTCTATGTCAAGGACATCTTCGGAGGACT
 GGCTGGGTTCTGAGGCTGTGGATTGCTGTGCTGGTGATCTACCCACCAACCAGGCTGCATCGCCCTC
 ACCTTCTCCAACACGTGCTGCAGCCGCTCTCCACCTGCTTCCCCCAGAGTCTGGCCTTCGGCTCC
 TGGCTGCCATCTGCTTATTGCTCCTCACATGGTCAACTGTTCCAGTGTGCGGTGGGCCACCCGGGTTCA
 AGACATCTTCACAGCTGGGAAGCTCCTGGCCTTGCCCTGATTATCATCATGGGGATTGTACAGATATGC
 AAAGGAGAGTACTTCTGGCTGGAGCCAAAGAATGCATTTGAGAATTTCCAGGAACCTGACATCGGCCTCG
 TCGCACTGGCTTTCCTTCAGGGCTCCTTTGCTATGGAGGCTGGAACCTTCTGAATTACGTGACTGAGGA
 GCTTGTGATCCCTACAAGAACCTTCCCAGAGCCATCTTCATCTCCATCCCAGTGGTACATTTGTGTAT
 GTCTTTGCCAATGTCGTTATGTCACTGCAATGTCCCCCAGGAGCTGCTGGCATCCAACGCCGTCGCTG
 TGACTTTTGAGAGAAGCTCCTAGGAGTCATGGCTGGATCATGCCCATTTCTGTTGCCCTGTCCACATT
 TGGAGGAGTTAATGGGTCTCTTACCTCCTCTCGGCTGTTCTTCGCTGGAGCCCGAGAGGGCCACCTT
 CCCAGTGTGTTGGCCATGATCCACGTGAAGCGCTGCACCCCAATCCCAGCCCTGCTTTCACATGCATCT
 CCACCTGCTGATGCTGGTCAACAGTACATGTACACACTCATCAACTACGTGGGCTTTCATCAACTACCT
 CTCTATGGGGTACGGTTGCTGGACAGATAGTCTTCGCTGGAAGAAGCCTGATATCCCCGCCCCATC
 AAGATCAACCTGCTGTTCCCATCATCTACTTGTCTGTTCTGGGCTTCTGCTGGTCTTACGCTGTGGT
 CAGAGCCGGTGGTGTGTGGCATTGGCCTGGCCATCATGCTGACAGGAGTGCCTGTCTATTTCTGGGTGT
 TTAAGGCAACAAGCCCAAGTGTTCAGTGACTTCATTGAGCTGCTAACCTGGTGGAGCCAGAAGATG
 TGTGTGGTGTGTACCCGAGGTGGAGCGGGCTCAGGGACAGAGGAGGCTAATGAGGACATGGAGGAGC
 AGCAGCAGCCATGTACCAACCCACTCCCACGAAGGACAAGGACGTGGCGGGCAGCCCCAGCCC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG208586 representing NM_012244
 Red=Cloning site Green=Tags(s)

MEEGARHRNTEKKHPGGESDASPEAGSGGGVALKKEIGLVSACGIIIVGNIIGSGIFVSPKGVLENAG
 SVGLALIVWIVTGFITVVGALCYAELGVTIPKSGGDYSYVKDIFGGLAGFLRLWIAVLVIYPTNQAVIAL
 TFSNYVLQPLFPTCFPPESGLRLLAAICLLLLTWVNCSSVRWATRVDIFTAGKLLALALIIIMGIVQIC
 KGEYFWLEPKNAFENFQEPDIGLVALAFLQGSFAYGGWNFLNYVTEELVDPYKNLPRAIFISIPLVTFVY
 VFANVAVYVAMSPQELLASNAVAVTFGEKLLGVMWIMPISVALSTFGGVNGLFTSSRLLFFAGAREGHL
 PSLVAMIHVKRCPTIPALLFTCISTLLMLVTSMDMYTLINYYVGFINYLFYGVTVAGQIVLRWKKPDIPRPI
 KINLLFPIIYLLFWAFLLVFLWSEPVVCGIGLAIMLTGVPVYFLGVYQHKPKCFSDFIELLTLVSQKM
 CVVVYPEVERGSGTEEANEDMEEQQQPMYQPTPTKDKDVAGQPQP

TRTRPLE - GFP Tag - V

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_012244.2](#), [NP_036376.2](#)

RefSeq Size: 4237 bp

RefSeq ORF: 1608 bp

Locus ID: 23428

UniProt ID: [Q9UHI5](#)

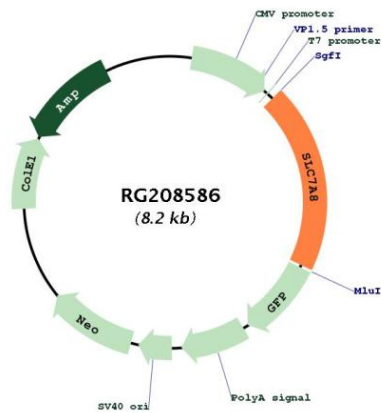
Cytogenetics: 14q11.2

Domains: aa_permeases

Protein Families: Druggable Genome, Transmembrane

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 RG208586