

Product datasheet for **SC321483**

LAT2 (SLC7A8) (NM_012244) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	LAT2 (SLC7A8) (NM_012244) Human Untagged Clone
Tag:	Tag Free
Symbol:	LAT2
Synonyms:	LAT2; LPI-PC1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC (PS100020)
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF: >OriGene sequence for NM_012244.2
 CTTTTGAGTTGCAATCCTACTGAGAAGGATGGAAGAAGGAGCCAGGCACCGAAACAACA
 CCGAAAAGAAACACCCAGGTGGGGGCGAGTCGGACGCCAGCCCCGAGGCTGGTTCCGGAG
 GGGCGGAGTAGCCCTGAAGAAAGAGATCGGATTGGTCAGTGCCTGTGGTATCATCGTAG
 GGAACATCATCGCTCTGGAATCTTTGTCTCGCCAAAGGGAGTGCTGGAGAATGCTGGTT
 CTGTGGGCCTTGCTCTCATCGTCTGGATTGTGACGGGCTTCATCACAGTTGTGGGAGCCC
 TCTGCTATGCTGAACTCGGGGTACCATCCCCAAATCTGGAGGTGACTACTCCTATGTCA
 AGGACATCTTCGGAGGACTGGCTGGGTTCTGAGGCTGTGGATTGCTGTGCTGGTGATCT
 ACCCCACCAACCAGGCTGTCATCGCCCTCACCTTCTCCAACACGTGCTGCAGCCGCTCT
 TCCCCACCTGCTTCCCCCAGAGTCTGGCCTTCGGCTCCTGGCTGCCATCTGCTTATTGC
 TCCTCACATGGGTCAACTGTTCCAGTGTGCGGTGGGCCACCCGGGTTCAAGACATCTTCA
 CAGCTGGGAAGCTCCTGGCCTTGCCCTGATTATCATCATGGGGATTGTACAGATATGCA
 AAGGAGAGTACTTCTGGCTGGAGCCAAAGAATGCATTTGAGAATTTCCAGGAACCTGACA
 TCGGCCTCGTCGCACTGGCTTTCCTTCAGGGCTCCTTTGCCTATGGAGGCTGGAACCTTC
 TGAATTACGTGACTGAGGAGCTTGTGATGCCACAAGAACCTTCCCAGAGCCATCTTCA
 TCTCCATCCCCTGGTACATTTGTGTATGCTTTGCCAATGTCGCTTATGCTCACTGCAA
 TGTCCCCCAGGAGCTGCTGGCATCCAACGCCGTCGCTGTGACTTTTGGAGAGAAGCTCC
 TAGGAGTCATGGCCTGGATCATGCCATTTCTGTTGCCCTGTCCACATTTGGAGGAGTTA
 ATGGGCTCTCTTCACCTCCTCTCGGCTGTTCTTCGCTGGAGCCGAGAGGGCCACCTTC
 CCAGTGTGTTGGCCATGATCCACGTGAAGCGCTGCACCCCAATCCAGCCCTGCTCTTCA
 CATGCATCTCCACCCTGCTGATGCTGGTACCAGTGACATGTACACACTCATCAACTACG
 TGGGCTTCATCAACTACCTCTTCTATGGGGTACGTTGCTGGACAGATAGTCTTTCGCT
 GGAAGAAGCCTGATATCCCCCGCCCAATCAAGATCAACCTGCTGTTCCCCATCATCTACT
 TGCTGTTCTGGGCCTTCTGCTGGTCTTCAGCCTGTGGTCAGAGCCGGTGGTGTGTGGCA
 TTGGCCTGGCCATCATGCTGACAGGAGTGCCTGTCTATTTCTGGGTGTTTACTGGCAAC
 ACAAGCCCAAGTGTTCAGTGACTTCATTGAGCTGCTAACCTGGTGAGCCAGAAGATGT
 GTGTGGTGTGTACCCCGAGGTGGAGCGGGCTCAGGGACAGAGGAGGCTAATGAGGACA



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TGGAGGAGCAGCAGCAGCCCATGTACCAACCCACTCCCACGAAGGACAAGGACGTGGCGG
 GGCAGCCCCAGCCCTGAGGACCACCATTCCCTGGCTACTCTCTCCTTCTCCCTTTTA
 TCCTACCTCCCTGCCTTGGTCCCAGCAACACATGCGAGTACACACACACCCTCTCTGCT
 TTTGTCAGGCAGTGGTAGGACTTTGGTGTGGGTGGTGAGAAATTGTAACAAAAGTACA
 TTCATACCCAAAGAACAGCCTCTACCCAGGGTCCATGTCCCAGGCCCCACTCCAGTG
 CTGCCCACACTCCCAGCTGCTGGAGGAGAGGGGAGATGCCAAGGTGCCCTGCAGGACCTC
 CCTCCGGGCCACACCCTCAGCTGCCTCTTCAGGAACCGGAGCTCATTACTGCCTTCCCTC
 CCAGGGAGGCCCTTCAGAGAGGAGAGGCCACAGGAGCTGCATTGTGGGGGACAGGCTC
 AAGCAATTCTGTCCCATCAAGGGGTGAGCTGGAGAGACCAAGACCCTATCTGTTACC
 AGGGACCCAAAATCCAAGGGGATGCTTCCCTCTGCCCTCTTTCCTGCCCTCCCCATCAT
 ACCTGCACCCACCCAGCCAGGGCTCCCTGTCCAGAATTCGGTTCTCCTCAGGACGCCAA
 CTTCCAGAGCTAAGGACCAAGGAGAAGAACAGCCTCTCCACCCCAAGCCAGGCGTTGA
 GGAACATATTGAGAAAGTTGAGATTGCAGAAACCCAGCCCTGCCCTGCCTCTGCATC
 CAGCCCCAACATGGTGCCAAAGCTTCCAGAAGCCAAAAGCTTCTGATTTTTAAGTAG
 TGGGCATCTCTCTCTAATGACGAAGCTGCTCAGCAACTCCACCTGCCCGCCGAGGAAG
 GAGCAGTCCCCTGCTATCCCTGCAGCCACTCCCAGCACACCCGCACACAGCCAGCACAC
 CGCCCCACCGTGCACTTCTCCTCTCTGGGCTTGGCTTGGGACCAGGTACGAAGGATCC
 CCAAGCCCTTCAGGCCTGAGATCAGAGCCAGATCAGCCTTAAGTACCTCCCATCCAAGA
 ACTTGGCCTAAAAATACTCCCCTATTTCTAACCCCTCAGGACGGATCTGATATTAATGCC
 TTCCCTGGGAGGAAGGGTGTCTTCCCTCCCTAGAGGTGCCATTCCATACCCTGGGAG
 ACTGAGGAGAGCATTGGCTGAAGCCAGTTCCTTTCCATCCATCCCAACTCCAATAAT
 CCCCCACTCCTCGCAGGTCTCAGTGTCTGCTGCTTGGGGCAGGGTGAAGGGTAGTGG
 CAGCAGGGCGCCCACTCTGGAGATCCTCAAAAAGGCCCTCCTCTGTGGCTGGCAGCCTC
 TGACCTTTCCCTGGGCTTCAAAGGAAGGCTATGGAGTTTGTGTGGGCCCTGCAACCTTC
 CCAGCCACTCCTGCTGACTAAGGACTTAGGATCCTTTTATCACAAATCGGGATTCTCTC
 CCCCACCCGAATTCTGTCTGCTTAAACTGGAATACACAGGAGCCCTTCTGGCCTGGAT
 GGTGTCTCCAGCTTCCCGCCAGCTTGCCACCCCATAGTTGGTGAGATGCCAAGTTT
 GGTCTGAGTTGTACCCCTTCCAGTAGATGCCCGCAGGCTGGGGTTGGCCCTGGAGG
 GTCAGGGGACCATCTTCTATTCCCTCTTTTCTCATTCTCCAACCTCCTCCCCTCCTTC
 AATTATTTTTTTGTAAGTTGATGCCTTACTTTTTGGATAAATATTTTTGAAGCTGGTAT
 TTCTATTTCTTTTGGATTTTTTTAATGTAAGGTTGTTTTGGGGATGGAGTTAGAACCT
 TAATGATAATTTCTTTCGTTGGTGTAGTTTTAGAGATTTGTTTTGTGGAGAGGTTTTT
 TTCTTTGATGTAATAAAATTTAAAATGGAAAAAAAAAAAAAAAAA

- Restriction Sites:** Please inquire
- ACCN:** NM_012244
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- OTI Annotation:** This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.
- 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]
Transcript Variant: This variant (1) represents the longest transcript and encodes the longest isoform (a).