

Product datasheet for **MG208231**

Slc7a5 (NM_011404) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Slc7a5 (NM_011404) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Slc7a5
Synonyms:	4F2LC; D0H16S474E; LAT1; TA1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG208231 representing NM_011404
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCGGTGCGGGGCCAAGAGGCGCGGTTGCGACCCGGCGGGCGGGCGGGAGGAGAGCGGC
 AGGCGCGGAGAAGATGTTGGAGGCGCGCGGGACGCGCGGACCCGAGGGCGAAGGCGTGACCCCT
 GCAGCGCAATATCACGCTGCTCAACGGTGTGGCCATCATCGTGGGACCATCATCGGCTCTGGCATCTTC
 GTGACGCCACCGGCGTCTCAAGGAAGCGGGTGCAGGACTGTCGCTCGTGGTGTGGGCTGTGTGCG
 GCGTCTTCTCCATCGTGGGCGCACTCTGCTACGCGGAGCTGGGCACCACCATCTCCAAGTCGGGCGCGA
 CTACGCCATACATGCTGGAGGTCTACGGCTCGTTGCCCGCCTTCTCAAGCTCTGGATCGAGCTGCTCATC
 ATTCGGCCCTCTCGAGTACATCGTGGCGCTGGTCTTCGCCACCTACTTGTCAAGCCGGTCTTCCCCA
 CTTGTCCGGTCCCGAGGAAGCTGCCAAGCTCGTGGCCTGCCTCTGCGTGTCTCTCACAGCTGTGAA
 CTGCTACAGCGTGAAGGCTGCGACCCGTGTGCAGGACGCCTTTGGGGCTGCCAAGCTGTGGCCCTGGCC
 CTATCATTTTTGCTCGGCTTCATCCAGATGGGGAAGGACATGGGACAAGGTGATGCGTCCAACTGCAGC
 AGAAGTTGTCCTTTGAAGGCACCAATCTGGACGTGGGGAACATTGTGTTGGCTTTGTACAGCGGCCTCTT
 CGCCTACGGAGGATGAACTATCTGAATTTTGTACGGAGGAGATGATCAACCCCTACAGGAACCTGCC
 CTGGCCATCATCATCTCCTTGCCATTGTACACTGGTCTATGTGCTGACGAACCTGGCCTATTTCACTA
 CCCTCTACCAACCAGATGCTGACATCTGAAGCTGTGGCTGTGGACTTCGGGAACCTACCACTGGGTGT
 CATGTCCTGGATCATTCTGTCTTTGTGGGCTTGTCTTGCTTCGGCTCTGTCAATGGGTCTCTGTTCAGC
 TCCTCAAGACTGTTCTTCGTGGGATCCAGGGAGGGCCACCTGCCTTCTGTCTCTCCATGATCCACCCAC
 AGCTGCTGACACCTGTGCCATCACTGGTTCACGTGTATAATGACGCTGATGACGCTCTCCAGGAGA
 TATCTTCTCCATCACTTCTTCAGCTTCTTCAACTGGCTGTGTGGCCCTGGCCATCATCGGTATG
 ATGTGGCTCCGATTCAAGAAGCCTGAGCTGGAGCGTCCCATCAAGGTGAATCTGGCCCTCCCGGTGTTCT
 TTATCCTGGCCTGCCTCTTCTCATTGCCGTGTCATTCTGGAAGACCCATGGAGTGTGGCATTGGCTT
 CGCCATCATCCTCAGCGGGCTGCCTGTCTACTTCTTTGGTGTCTGGTGAAGAACAAGCCCAAGTGGATT
 CTGCAGGCTATCTTCTGTGACGGTGTCTGCCAGAAGTTGATGCAGGTGGTACCTCAGGAGACT

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>MG208231 representing NM_011404
 Red=Cloning site Green=Tags(s)

MAVAGAKRRAVATPAAAAEEERQAREKMLEARRGDGADPEGEGVTLQRNITLLNGVAIIVGTIIGSGIF
 VTPTGVLKEAGSPGLSLVWAVCGVFSIVGALCYAELGTTISKSGDYAYMLEVYGSPLPAFLKLWIELLI
 IRPSSQYIVALVFATYLLKPVFPTCPVPEEAAKLVAQLCVLLLTAVNCYSVKAATRVQDAFAAAKLLALA
 LIILLGFIQMGKDMGQGDASNLQKLSFEGTNLDVGNIVLALYSGLFAYGGWNYLNFVTEEMINPYRNLP
 LAIIISLPIVTLVYVLTNLAYFTTLSTNQMLTSEAVAVDFGNHYHLGVMSWIIPVVFVGLSCFGSVNGSLFT
 SSRLFFVGSREGHLPVLSMIHPQLLTPVPSLVFTCIMTLMYAFSRDIFSIIINFFSFFNWLCVLAIIGM
 MWLRFKKPELERPIKVNLAIPVFFILACLFLIAVSFWKTPMECGIGFAIILSGLPVYFFGVWKNKPKWI
 LQAIFSVTVLCQKLMQVVPQET

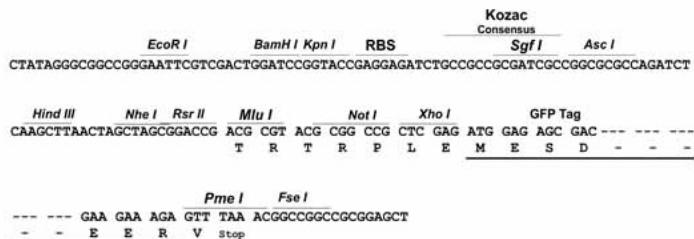
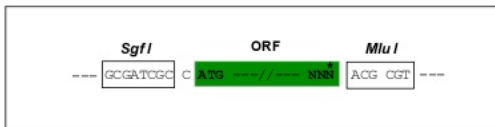
TRTRPLE – GFP Tag – V

Restriction Sites:

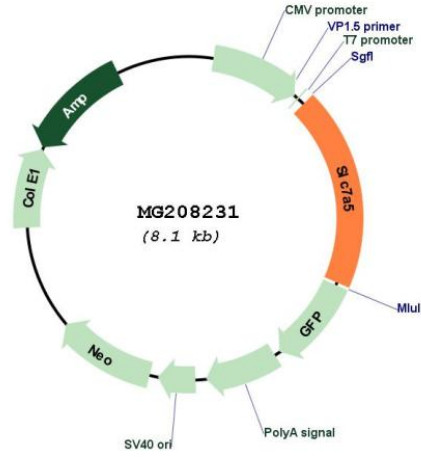
Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM_011404

ORF Size: 1536 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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_011404.2](#), [NP_035534.2](#)

RefSeq Size: 3535 bp

RefSeq ORF: 1539 bp

Locus ID: 20539

UniProt ID: [Q9Z127](#)

Cytogenetics: 8

Gene Summary:

The heterodimer with SLC3A2 functions as sodium-independent, high-affinity transporter that mediates uptake of large neutral amino acids such as phenylalanine, tyrosine, L-DOPA, leucine, histidine, methionine and tryptophan (PubMed:9915839, PubMed:11011012). Functions as an amino acid exchanger (By similarity). May play a role in the transport of L-DOPA across the blood-brain barrier (Probable). May act as the major transporter of tyrosine in fibroblasts (By similarity). May mediate blood-to-retina L-leucine transport across the inner blood-retinal barrier (By similarity). Can mediate the transport of thyroid hormones triiodothyronine (T3) and thyroxine (T4) across the cell membrane. When associated with LAPT4B, the heterodimer formed by SLC3A2 and SLC7A5 is recruited to lysosomes to promote leucine uptake into these organelles, and thereby mediates mTORC1 activation. Involved in the uptake of toxic methylmercury (MeHg) when administered as the L-cysteine or D,L-homocysteine complexes. Involved in the cellular activity of small molecular weight nitrosothiols, via the stereoselective transport of L-nitrosocysteine (L-CNSO) across the membrane (By similarity).[UniProtKB/Swiss-Prot Function]