

Product datasheet for **MG226097**

Slc3a2 (NM_001161413) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Slc3a2 (NM_001161413) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Slc3a2
Synonyms:	4F2; 4F2HC; AI314110; Cd98; Ly-10; Ly-m10; Ly10; Mdu1; Mgp-2hc; NACAE
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG226097 representing NM_001161413
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGATCCTGAACCTACTGAACACTCCACCAGCGTGTCTCGGTTCCCCGCCAGCCGCCAGCGCGCAGA
 CGGGCTTGATGTCCAGTTGTACAGCGCAGCGGGCGACTCAGGCACCATGAGCCAGGACACCGAAGTGGA
 CATGAAAGATGTGGAGCTGAACGAGCTAGAACCGGAGAAGCAGCCCATGAATGCAGCGGACGGGGCGCG
 GCCGGGAGAAGAACGGTCTGGTGAAGTCAAGGTGGCGGAGGACGAGACGGAGGCCGGGTCAAGTTCA
 CCGGCTTATCCAAGGAGGAGCTACTGAAGGTAGCGGGCAGCCCTGGTGGGTGCGCACCCGCTGGGCGCT
 GCTGCTGCTCTTCTGGCTCGGTTGGCTGGGCATGCTGGCGGGCGCCGTGGTTATCATCGTTCCGGCGCCG
 CGTGCCGTGAGCTGCCTGTACAGAGGTGGTGGCACAAGGGCGCCCTCTACCGCATCGGCGACCTTCAGG
 CCTTTGTAGGCCGGATGCGGGAGGCATAGCTGGTCTGAAGAGCCATCTGGAGTACTTGAGCACCCCTGAA
 GGTGAAGGGCCTGGTGTAGGCCAATTCACAAGAACCAGAAGGATGAAATCAATGAAACCGACCTGAAA
 CAGATTAATCCCCTTTGGGCTCCCAGGAAGATTTTAAAGACCTTCTACAAAGTGCCAAGAAAAAGAGCA
 TTCACATCATTTTGGACCTCACTCCCACTACCAGGGCCAGAATGCGTGGTTCCTCCCTGCTCAGGCTGA
 CATTGTAGCCACCAAAATGAAGGAAGCTCTGAGTCTTGGTTGCAGGACGGTGTGGATGGTTTCCAATTC
 CGGGATGTGGAAAGCTGATGAATGCACCTTGTACTTGGCTGAGTGGCAGAATATCACCAAGAACTTAA
 GTGAGGACAGGCTTTTGAATGCAGGACTGAGTCTCTGACCTGCAGCAAATGTCAACATACTTGAATC
 CACCAGCAGCTGCTGTTGACCAGCTCCTACCTGTCAAATCCACTTTCACTGGGAGCGTACTGAATCC
 CTAGTACTAGGTTTTTGAATGCCACTGGCAGCCAATGGTGCAGCTGGAGTGTGTCGAAGCAGGACTCC
 TCGCAGACTTTATACCGACCATCTTCTCCGACTCTACCAGCTGCTGCTTCACTTCCAGGGACTCC
 TGTTTTTAGCTACGGGGATGAGCTTGGCTTACAGGGTGCCTTCCCTGGACAGCCTGCGAAGGCCCACTC
 ATGCCGTGGAATGAGTCCAGCATCTTTCACATCCCAAGACCTGTAAAGCCTCAACATGACAGTGAAGGGCC
 AGAATGAAGACCCTGGCTCCCTCCTTACCAGTCCGGCGGCTGAGTGACCTTCGGGGTAAGGAGCGCTC
 TCTGTTGCACGGTGACTTCCATGCACTGTCTTCTCACCTGACCTCTTCTCCTACATACGACACTGGGAC
 CAGAATGAGCGTTACCTGGTGGTCTCACTTCCGAGATTCGGGCGGTCAGCCAGGCTAGGGGCCCTCCA
 ACCTCCCTGCTGGCATAAGCCTGCCAGCCAGCGCTAACTTTTGCTTAGTACCGACAGTGCCCGGCAAG
 CCGTGAGGAGGACACCTCCCTGAAGCTGAAAAACCTGAGCCTGAATCCTTATGAGGGCTTGCTGTTACAG
 TTCCTTTGTGGCC

ACGCGTACGCGGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG226097 representing NM_001161413
 Red=Cloning site Green=Tags(s)

MDPEPTEHSTDGVSVP RPQPPSAQTGLDVQVVSAA GDSGTMSQDTEVDMKDVELNELEPEKQPMNAADGAA
 AGEKNGLVKIKVAEDETEAGVKFTGLSKEELLKVAGSPGWVTRWALLLLFWLWLGMLAGAVVIVRAP
 RCREL PVQRWWHKGALYRIGDLQAFVGRDAGGIAGL KSHLEYLSTLKVKGLVLP IHNKQKDEINETDLK
 QINPTLGSQEDFKDLLQS AKKKSIIHILD LTPNYQQNAWFLPAQADIVATKMKEALSSWLQDGVDFQF
 RDVGKLMNAPLYLA EWQNI TNKLSERLLIAGTESSDLQQIVNILESTSDLLTSSYL SNSTFTGERTE
 LVTRFLNATGSQWCSWSVSQAGLLADFPDHLRLRYQLLLFTLP GTPVFSYGDELGLQGALPGQPAKAPL
 MPWNNESSIFH IPRPVS LNMTVKQNE DPGSLLTQFRRLSDLRGKERSLLHGDFHALSSSPDLFSYIRHWD
 QNERYL VVLNFRDSGRSARLGASNL PAGISLPASAKLLLSTDSARQSREEDTSLKLENLSLNPYEGLLLQ
 PPFVA

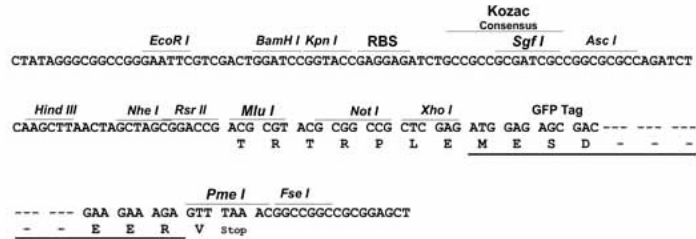
TRTRPLE - GFP Tag - V

Restriction Sites:

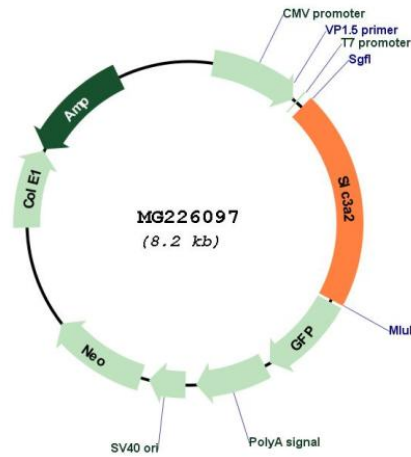
Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM_001161413
 ORF Size: 1695 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_001161413.1](#), [NP_001154885.1](#)

RefSeq Size: 2813 bp

RefSeq ORF: 1698 bp

Locus ID: 17254

UniProt ID: [P10852](#)

Cytogenetics: 19 5.44 cM

Gene Summary:

Component of several heterodimeric amino acid transporter complexes. The precise substrate specificity depends on the other subunit in the heterodimer (PubMed:9915839). 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). The complexes with SLC7A6 and SLC7A7 mediate uptake of dibasic amino acids. The complexes function as amino acid exchangers (By similarity). Required for targeting of SLC7A5 and SLC7A8 to the plasma membrane and for channel activity (PubMed:9915839). Plays a role in nitric oxide synthesis in human umbilical vein endothelial cells (HUVECs) via transport of L-arginine (By similarity). The heterodimer with SLC7A5/LAT1 may play a role in the transport of L-DOPA across the blood-brain barrier (Probable). May mediate blood-to-retina L-leucine transport across the inner blood-retinal barrier (By similarity). The heterodimer with SLC7A5/LAT1 can mediate the transport of thyroid hormones triiodothyronine (T3) and thyroxine (T4) across the cell membrane. When associated with SLC7A5 or SLC7A8, involved in the cellular activity of small molecular weight nitrosothiols, via the stereoselective transport of L-nitrosocysteine (L-CNSO) across the transmembrane. The heterodimer with SLC7A5 is involved in the uptake of toxic methylmercury (MeHg) when administered as the L-cysteine or D,L-homocysteine complexes. Together with ICAM1, regulates the transport activity SLC7A8 in polarized intestinal cells, by generating and delivering intracellular signals. When associated with LAPTM4B, the heterodimer formed by SLC3A2 and SLC7A5 is recruited to lysosomes to promote leucine uptake into these organelles, and thereby mediates mTORC1 activation (By similarity). [UniProtKB/Swiss-Prot Function]