

Product datasheet for **MR208439**

Slc3a2 (NM_008577) Mouse Tagged ORF Clone

Product data:

| | |
|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | Slc3a2 (NM_008577) Mouse Tagged ORF Clone |
| Tag: | Myc-DDK |
| Symbol: | Slc3a2 |
| Synonyms: | 4F2; 4F2HC; AI314110; Cd98; Ly-10; Ly-m10; Ly10; Mdu1; Mgp-2hc; NACAE |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |



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ORF Nucleotide Sequence:

>MR208439 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGAGCCAGGACACCGAAGTGGACATGAAAGATGTGGAGCTGAACGAGCTAGAACC GGAGAAGCAGCCCA
 TGAATGCAGCGGACGGGGCGGCCGGGAGAGAAGACGGTCTGGTGAAGATCAAGGTGGCGGAGGACGA
 GACGGAGCGCGGGTCAAGTTCACCGGCTTATCCAAGGAGGAGCTACTGAAGGTAGCGGGACGCCCTGGC
 TGGGTGCGCACCCGCTGGGCGCTGCTGCTCTTCTGGCTCGGTTGGCTGGGCATGCTGGCGGGCGCCG
 TGGTTATCATCGTTCGGGCGCCGCTGCCGTGAGCTGCCTGTACAGAGGTGGTGCACAAGGGCGCCCT
 CTACCGCATCGGCGACCTTCAGGCCTTTGTAGGCCGGGATGCGGGAGGCATAGCTGGTCTGAAGAGCCAT
 CTGGAGTACTTGAGCACCTGAAGGTGAAGGGCCTGGTGTAGGCCCAATTCACAAGAACCAGAAGGATG
 AAATCAATGAAACCGACCTGAAACAGATTAATCCCACTTTGGGCTCCCAGGAAGATTTAAAGACCTTCT
 ACAAAGTGCCAAGAAAAGAGCATTACATCATTTTGGACCTCACTCCCACTACCAGGGCCAGAATGCG
 TGGTTCCTCCCTGCTCAGGCTGACATTGTAGCCACCAAAATGAAGGAAGCTCTGAGTTCTTGGTTGCAGG
 ACGGTGTGGATGGTTTCAATTCGGGATGTGGGAAAGCTGATGAATGCACCCCTGTACTTGGCTGAGTG
 GCAGAATATACCAAGAACTTAAGTGAGGACAGGCTTTTGATTGCAGGGACTGAGTCTCTGACCTGCAG
 CAAATTGTCAACATACTTGAATCCACCAGCGACCTGCTGTTGACCAGCTCCTACCTGTCAAATCCACTT
 TCACTGGGGAGCGTACTGAATCCCTAGTCACTAGGTTTTTGAATGCCACTGGCAGCCAATGGTGCAGCTG
 GAGTGTGTCGCAAGCAGGACTCCTCGCAGACTTATACCGGACCATCTTCTCGACTCTACCAGCTGCTG
 CTCTTCACTCTGCCAGGACTCCTGTTTTAGCTACGGGATGAGCTTGGCCTTCAGGGTCCCTTCCTG
 GACAGCTGCGAAGGCCCACTCATGCCGTGGAATGAGTCCAGCATCTTTCACATCCCAAGACCTGTAAG
 CCTCAACATGACAGTGAAGGGCCAGAATGAAGACCCTGGCTCCCTCCTTACCCAGTTCCGGCGGCTGAGT
 GACCTTCGGGTAAGGAGCGCTCTCTGTTGCACGGTGACTTCCATGCACTGTCTTCTCACCTGACCTCT
 TCTCTACATACGACTGGGACCAGAATGAGCGTTACCTGGTGGTCTCAACTCCGAGATTCGGGCCG
 GTCAGCCAGGCTAGGGGCTCCAACCTCCCTGCTGGCATAAGCCTGCCAGCCAGCGCTAACTTTTGCTT
 AGTACCGACAGTCCCGGCAAAGCCGTGAGGAGGACACCTCCCTGAAGCTGGAAAACCTGAGCCTGAATC
 CTTATGAGGGCTTGCTGTACAGTTCCTTTGTGGCC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR208439 protein sequence
 Red=Cloning site Green=Tags(s)

MSQDTEVDMKDVELNELEPEKQPMNAADGAAAGEKNGLVKIKVAEDETEAGVKFTGLSKEELLKVGASPG
 WVRTRWALLLLFWLWLGMLAGAVVIVRAPRCREL PVQRWWHKGALYRIGDLQAFVGRDAGGIAGLKSH
 LEYLSTLKVKGLVLPPIHKNQKDEINETDLKQINPTLGSQEDFKDLLQS AKKSIHIILDLT PNYQGQNA
 WFLPAQADIVATKMKEALSSWLQDVGDFQFRDVGKLMNAPLYLAEWQNI TNKLSERLLIAGTESSDLQ
 QIVNILESTDLLTSSYL SNSTFTGERTE SLVTRFLNATGSQWCSWSVSQAGLLADFI PDHLLRLYQLL
 LFTLPGTPVFSYGDELGLQ GALPGQPAKAPLMPWNESSIFHI PRPVSLNMTVKGQNE DPGSLLTQFRRLS
 DLRGKERSLLHGDFHALSSPD LFSYIRHWDQNERYL VVLNFRD SGRSARL GASNLPAGISLPASAKLLL
 STDSARQSREEDTSLKLENLSLNPYEGLLLQFPFVA

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:



ACCN: NM_008577

ORF Size: 1581 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_008577.4](#)

RefSeq Size: 2572 bp

RefSeq ORF: 1581 bp

Locus ID: 17254

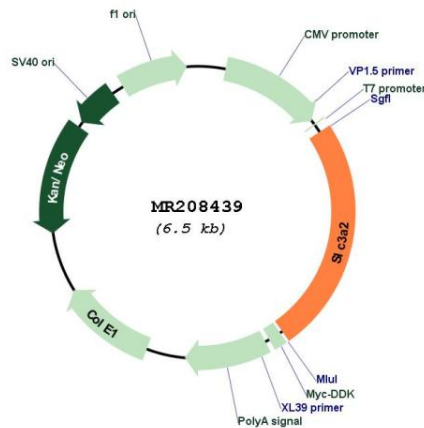
UniProt ID: [P10852](#)

Cytogenetics: 19 5.44 cM

MW: 58.3 kDa

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]

Product images:



Circular map for MR208439