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Product datasheet for RG207604

SLC7A5 (NM_003486) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SLC7A5 (NM_003486) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	SLC7A5
Synonyms:	4F2LC; CD98; D16S469E; E16; LAT1; MPE16
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)

View online »

ORF Nucleotide Sequence:

>RG207604 representing NM_003486
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCGGGTGCGGGCCCGAAGCGGCGCGCGCTAGCGGCGCCGGCGGCCGAGGAGAAGGAAGAGGCGCGGG
AGAAGATGCTGGCCGCCAAGAGCGCGGACGGCTCGGCGCCGGCAGGCGAGGGCGAGGGCGTGACCCTGCA
GCGGAACATCACGCTGCTCAACGGCGTGGCCATCATCGTGGGGACCATTATCGGCTCGGGCATCTTCGTG
ACGCCCACGGGCGTGCTCAAGGAGGCAGGCTCGCCGGGGCTGGCGCTGGTGGTGTGGGCCGCGTGCGGCG
TCTTCTCCATCGTGGGCGCGCTCTGCTACGCGGAGCTCGGCACCACCATCTCCAAATCGGGCGGAGACTA
CGCCTACATGCTGGAGGTCTACGGCTCGCTGCCCGCCTTCCTCAAGCTCTGGATCGAGCTGCTCATCATC
CGGCCTTCATCGCAGTACATCGTGGCCCTGGTCTTCGCCACCTACCTGCTCAAGCCGCTCTTCCCCACCT
GCCCGGTGCCCGAGGAGGCAGCCAAGCTCGTGGCCTGCCTCTGCGTGCTGCTGCTCACGGCCGTGAACTG
CTACAGCGTGAAGGCCGCCACCCGGGTCCAGGATGCCTTTGCCGCCGCCAAGCTCCTGGCCCTGGCCCTG
ATCATCCTGCTGGGCTTCGTCCAGATCGGGAAGGGTGTTGTGTCCAATCTAGATCCCAACTTCTCATTTG
AAGGCACCAAACTGGATGTGGGGAACATTGTGCTGGCATTATACAGCGGCCTCTTTGCCTATGGAGGATG
GAATTACTTGAATTTCGTCACAGAGGAAATGATCAACCCCTACAGAAACCTGCCCCTGGCCATCATCATC
TCCCTGCCCATCGTGACGCTGGTGTACGTGCTGACCAACCTGGCCTACTTCACCACCCTGTCCACCGAGC
AGATGCTGTCGTCCGAGGCCGTGGCCGTGGACTTCGGGAACTATCACCTGGGCGTCATGTCCTGGATCAT
CCCCGTCTTCGTGGGCCTGTCCTGCTTCGGCTCCGTCAATGGGTCCCTGTTCACATCCTCCAGGCTCTTC
TTCGTGGGGTCCCGGGAAGGCCACCTGCCCTCCATCCTCTCCATGATCCACCCACAGCTCCTCACCCCCG
TGCCGTCCCTCGTGTTCACGTGTGTGATGACGCTGCTCTACGCCTTCTCCAAGGACATCTTCTCCGTCAT
CAACTTCTTCAGCTTCTTCAACTGGCTCTGCGTGGCCCTGGCCATCATCGGCATGATCTGGCTGCGCCAC
AGAAAGCCTGAGCTTGAGCGGCCCATCAAGGTGAACCTGGCCCTGCCTGTGTTCTTCATCCTGGCCTGCC
TCTTCCTGATCGCCGTCTCCTTCTGGAAGACACCCGTGGAGTGTGGCATCGGCTTCACCATCATCCTCAG
CGGGCTGCCCGTCTACTTCTTCGGGGTCTGGTGGAAAAACAAGCCCAAGTGGCTCCTCCAGGGCATCTTC
TCCACGACCGTCCTGTGTCAGAAGCTCATGCAGGTGGTCCCCCAGGAGACA

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

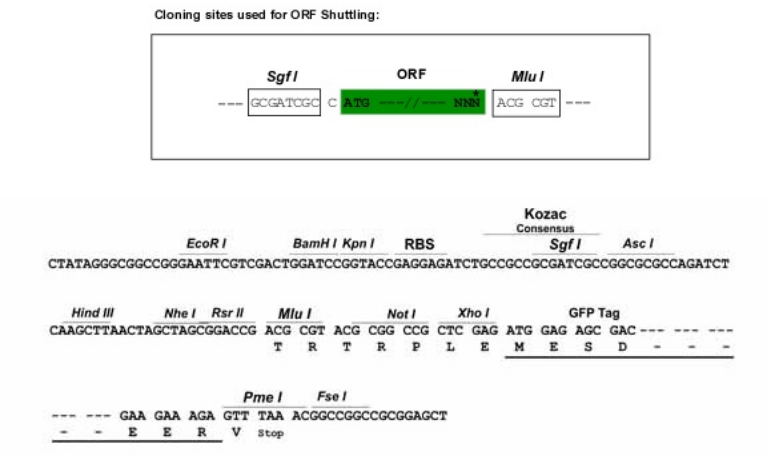
>RG207604 representing NM_003486
Red=Cloning site Green=Tags(s)

MAGAGPKRRALAAPAAEEKEEAREKMLAAKSADGSAPAGEGEGVTLQRNITLLNGVAIIVGTIIGSGIFV
TPTGVLKEAGSPGLALVVWAACGVFSIVGALCYAELGTTISKSGGDYAYMLEVYGSLPAFLKLWIELLII
RPSSQYIVALVFATYLLKPLFPTCPVPEEAAKLVACLCVLLLTAVNCYSVKAATRVQDAFAAAKLLALAL
IILLGFVQIGKGVVSNLDPNFSFEGTKLDVGNIVLALYSGLFAYGGWNYLNFVTEEMINPYRNLPLAIII
SLPIVTLVYVLTNLAYFTTLSTEQMLSSEAVAVDFGNYHLGVMSWIIPVFVGLSCFGSVNGSLFTSSRLF
FVGSREGHLPSILSMIHPQLLTPVPSLVFTCVMTLLYAFSKDIFSVINFFSFFNWLCVALAIIGMIWLRH
RKPELERPIKVNLALPVFFILACLFLIAVSFWKTPVECGIGFTIILSGLPVYFFGVWWKNKPKWLLQGIF
STTVLCQKLMQVVPQET

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_003486

ORF Size: 1521 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.

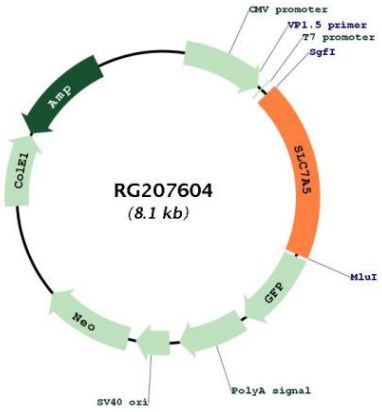
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

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_003486.4

RefSeq Size:	4543 bp
RefSeq ORF:	1524 bp
Locus ID:	8140
UniProt ID:	Q01650
Cytogenetics:	16q24.2
Domains:	aa_permeases
Protein Families:	Druggable Genome, Transmembrane
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:9751058, PubMed:10049700, PubMed:11557028, PubMed:10391915, PubMed:10574970, PubMed:11311135, PubMed:11564694, PubMed:12117417, PubMed:12225859, PubMed:25998567, PubMed:30867591). Functions as an amino acid exchanger (PubMed:11557028, PubMed:12117417, PubMed:12225859, PubMed:30867591). May play a role in the transport of L-DOPA across the blood-brain barrier (By similarity). May act as the major transporter of tyrosine in fibroblasts (Probable). 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 (PubMed:11564694, PubMed:12225859). 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 (PubMed:25998567). Involved in the uptake of toxic methylmercury (MeHg) when administered as the L-cysteine or D,L-homocysteine complexes (PubMed:12117417). Involved in the cellular activity of small molecular weight nitrosothiols, via the stereoselective transport of L-nitrosocysteine (L-CNSO) across the membrane (PubMed:15769744).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for RG207604