

## Product datasheet for **RC207604**

### SLC7A5 (NM\_003486) Human Tagged ORF Clone

#### Product data:

|                           |   |
|---------------------------|---|
| Product Type:             | Expression Plasmids                       |
| Product Name:             | SLC7A5 (NM_003486) Human Tagged ORF Clone |
| Tag:                      | Myc-DDK                                   |
| Symbol:                   | SLC7A5                                    |
| Synonyms:                 | 4F2LC; CD98; D16S469E; E16; LAT1; MPE16   |
| Mammalian Cell Selection: | Neomycin                                  |
| Vector:                   | pCMV6-Entry (PS100001)                    |
| E. coli Selection:        | Kanamycin (25 ug/mL)                      |



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**ORF Nucleotide Sequence:**

>RC207604 representing NM\_003486  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCGGGTGCGGGCCCAAGCGCGCGCGCTAGCGCGCGCGCGCCGAGGAGAAGGAAGAGCGCGGG  
 AGAAGATGCTGGCGCCAAGAGCGCGGACGGCTCGGCGCGCGCAGGCGAGGGCGAGGGCGTGACCCGCA  
 GCGGAACATCACGCTGCTCAACGCGTGGCCATCATCGTGGGACCATTATCGGCTCGGGCATCTTCGTG  
 ACGCCACGGGCGTCTCAAGGAGGAGGCTCGCCGGGGCTGGCGCTGGTGGTGTGGGCCGCGTGCGGCG  
 TCTTCTCCATCGTGGGCGCGCTCTGCTACGCGGAGCTCGGCACCACCATCTCAAATCGGGCGGAGACTA  
 CGCCTACATGCTGGAGGCTACGGCTCGCTGCCCGCTTCTCAAGCTCTGGATCGAGCTGCTCATCATC  
 CGGCCTTCATCGCAGTACATCGTGGCCCTGGTCTTCGCCACCTACCTGCTCAAGCCGCTCTTCCCCACCT  
 GCCCGGTGCCGAGGAGGAGCAAGCTCGTGGCCTGCCTCTGCGTGTGCTGCTCACGGCCGTGAAGTCT  
 CTACAGCGTGAAGCCGCCACCCGGGTCCAGGATGCCTTTGCCCGCGCAAGCTCCTGGCCCTGGCCCTG  
 ATCATCTGCTGGGCTTCGTCCAGATCGGGAAGGGTGTGTGTCCAATCTAGATCCCAACTTCTCATTTG  
 AAGGCACCAAACCTGGATGTGGGGAACATTGTGCTGGCATTATACAGCGGCTCTTTGGCTATGGAGGATG  
 GAATTACTTGAATTTTCGTACAGAGGAAATGATCAACCCCTACAGAAACCTGCCCTGGCCATCATCATC  
 TCCCTGCCATCGTGACGCTGGTGTACGTGCTGACCAACCTGGCCTACTTACCACCCTGTCCACCGAGC  
 AGATGTGTGCTCCGAGGCCGTGGCCGTGGACTTCGGAACTATCACCTGGGCGTCATGTCTGGATCAT  
 CCCCCTTTCGTGGGCTGTCTGCTTCGGCTCCGTCATGGGTCCTGTTACATCCTCCAGGCTCTTC  
 TTCGTGGGGTCCCGGAAGGCCACCTGCCCTCCATCCTCTCATGATCCACCCACAGCTCCTCACCCCG  
 TGCCCTCCCTCGTGTTCACGTGTGTGATGACGCTGCTACGCCTTCTCCAAGGACATCTTCCGTCAT  
 CAACTTCTCAGCTTCTTCAACTGGCTCTGCGTGGCCCTGGCCATCATCGGCATGATCTGGCTGCGCCAC  
 AGAAAGCCTGAGCTTGAGCGGCCATCAAGGTGAACCTGGCCCTGCCTGTGTTCTTCATCCTGGCCTGCC  
 TCTTCTGATCGCCGTCTCCTTCTGGAAGACCCGTGGAGTGTGGCATCGGCTTACCATCATCCTCAG  
 CGGGCTGCCCGTCTACTTCTTCGGGTCTGGTGGAAAAACAAGCCCAAGTGGCTCCTCCAGGGCATCTTC  
 TCCACGACCGTCTGTGCAGAAGCTCATGCAGGTGGTCCCCAGGAGACA

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC207604 representing NM\_003486  
 Red=Cloning site Green=Tags(s)

MAGAGPKRRALAAPAAEEKEEAREKMLAASKSADGSAPAGEGEGVTLQRNITLLNGVAIIIVGTIIGSGIFV  
 TPTGVLKEAGSPGLALVWAAACGVFSIVGALCYAELGTTISKSGDYAYMLEVYGLPFLKLIWIELLII  
 RPSSQYIVALVFATYLLKPLFPTCPVPEEAACLVAQLVLLLTAVNCYSVKAATRVQDAFAAKLLALAL  
 IILLGFVQIGKGVVSNLDPNFSFEGTKLDVGNIVLALYSGLFAYGGWNYLNFVTEEMINPYRNLPLAII  
 SLPIVTLVYVLTNLAYFTTLSTEQMLSEAVAVDFGNYHLGVMSWIIPVVFVGLSCFSGVNSLFTSSRLF  
 FVGSREGHLPSILSMIHPQLLTPVPSLVFTCVMTLLYAFSKDIFSVINFFSFFNWLVALAIIGMIWLRH  
 RKPELERPIKVNALPVFFILACLFLIAVSFWKTPVECGIGFTIISGLPVYFFGVWKNKPKWLLQGI  
 STTVLCQKLMQVVPQET

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mg2637\\_b01.zip](https://cdn.origene.com/chromatograms/mg2637_b01.zip)

**Restriction Sites:**

Sgfl-Mlul

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](mailto: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](#)

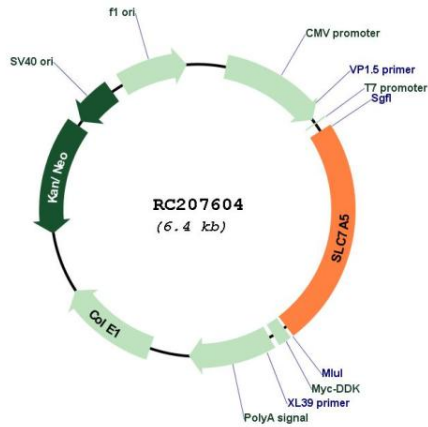
OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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).

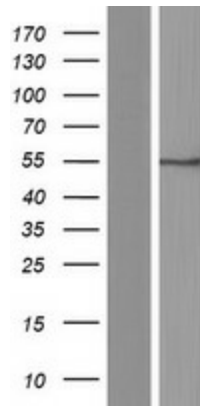
- Reconstitution Method:
1. Centrifuge at 5,000xg for 5min.
  2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
  3. Close the tube and incubate for 10 minutes at room temperature.
  4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the 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.

|                          |   |
|--------------------------|---|
| <b>Note:</b>             | Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.  |
| <b>RefSeq:</b>           | <a href="#">NM_003486.4</a>   |
| <b>RefSeq Size:</b>      | 4543 bp   |
| <b>RefSeq ORF:</b>       | 1524 bp   |
| <b>Locus ID:</b>         | 8140  |
| <b>UniProt ID:</b>       | <a href="#">Q01650</a>  |
| <b>Cytogenetics:</b>     | 16q24.2   |
| <b>Domains:</b>          | aa_permeases  |
| <b>Protein Families:</b> | Druggable Genome, Transmembrane   |
| <b>MW:</b>               | 54.8 kDa  |
| <b>Gene Summary:</b>     | <p>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 LAPT4B, 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]</p> |

Product images:



Circular map for RC207604



Western blot validation of overexpression lysate (Cat# [LY401180]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC207604 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).