

## Product datasheet for **RC213008**

### CPS1 (NM\_001875) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	CPS1 (NM_001875) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CPS1
Synonyms:	CPSASE1; GATD6; PHN
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC213008 representing NM_001875 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGACGAGGATTTTGACAGCTTTCAAAGTGGTGAGGACACTGAAGACTGGTTTTGGCTTTACCAATGTGA  
CTGCACACCAAAAATGAAAATTTCAAGACCTGGCATCAGGCTCCTTTCTGTCAAGGCACAGACAGCACA  
CATTGCTCTGGAAGATGGAAGTAAAGTAAAGGTTACTCCTTTGGCCATCCATCCTCTGTTGCTGGTGAA  
GTGGTTTTTAATACTGGCCTGGGAGGTACCCAGAAGCTATTACTGACCCTGCCTACAAAGGACAGATTC  
TCACAATGGCCAACCCTATTATTGGGAATGGTGGAGCTCCTGATACTACTGCTCTGGATGAAGTGGGACT  
TAGCAAATATTTGGAGTCTAATGGAATCAAGGTTTCAGGTTTGCTGGTGCCTGGATTATAGTAAAGACTAC  
AACCCTGGCTGGCTACCAAGAGTTTAGGGCAATGGCTACAGGAAGAAAAGGTTCCCTGCAATTTATGGAG  
TGGACACAAGAATGCTGACTAAAATAATTCGGGATAAGGGTACCATGCTTGGGAAGATTGAATTTGAAGG  
TCAGCCTGTGGATTTTGTGGATCCAAATAAACAGAATTTGATTGCTGAGGTTTCAACCAAGGATGTCAAA  
GTGTACGGCAAAGGAAACCCACAAAAGTGGTAGCTGTAGACTGTGGGATTAACCAAGGATGTCAAA  
TGCTAGTAAAGCGAGGAGCTGAAGTGCCTTAGTCCCTGGAACCATGATTTACCAAGATGGAGATGA  
TGGGATTTTATCGCGGGAGGACCGGGGAACCCAGCTCTTGCAAGAACTAATTCAGAATGTCAGAAG  
ATTTTGGAGAGTGATCGCAAGGAGCCATTGTTTGAATCAGTACAGGAACTTAATAACAGGATTTGGCTG  
CTGGTGCCAAAACCTACAAGATGTCATGGCCAACAGAGGGCAGAATCAGCCTGTTTTGAATATCACAAA  
CAAACAGGCTTTTACTACTGCTCAGAATCATGGCTATGCCTTGGACAACCCCTCCCTGCTGGCTGGAAA  
CCACTTTTTGTGAATGTCAACGATCAAACAAATGAGGGGATTATGCATGAGAGCAAACCCCTCTTCGCTG  
TGCAGTTCACCCAGAGGTCACCCCGGGGCAATAGACACTGAGTACCTGTTTGATTCTTTTTCTCACT  
GATAAAGAAAGGAAAAGCTACCACCATTACATCAGTCTTACCGAAGCCAGCACTAGTTGCATCTCGGGTT  
GAGGTTTCCAAGTCCTTATTCTAGGATCAGGAGTCTGTCCATTGGTCAGGCTGGAGAATTTGATTACT  
CAGGATCTCAAGCTGTAAGGCCATGAAGGAAGAAAATGTCAAACCTGTTCTGATGAACCCAAACATTGC  
ATCAGTCCAGACCAATGAGGTGGCTTAAAGCAAGCGGATACTGTCTACTTTCTCCCATCACCCCTCAG



TTTGTACAGAGGTCATCAAGGCAGAACAGCCAGATGGGTTAATTCTGGGCATGGGTGGCCAGACAGCTC  
TGAAGTGTGGAGTGGAACTATTCAAGAGAGGTGTGCTCAAGGAATATGGTGTGAAAGTCTGGGAACTTC  
AGTTGAGTCCATTATGGCTACGGAAGACAGGCAGCTGTTTTAGATAAAATAAATGAGATCAATGAAAAAG  
ATTGCTCAAGTTTTGCAGTGGAAATCGATTGAGGATGCACTGAAGGCAGCAGACACCATTGGCTACCCAG  
TGATGATCCGTTCCGCTATGCACTGGGTGGGTTAGGCTCAGGCATCTGTCCACAGAGAGACTTTGAT  
GGACCTCAGCACAAAGGCCTTTGCTATGACCAACCAAATCTGGTGGAGAAGTCAGTGACAGGTTGGAAA  
GAAATAGAAATGAAAGTGGTTCGAGATGCTGATGACAATTGTGTCACTGTCTGTAACATGGAAAAATGTTG  
ATGCCATGGGTGTTACACAGGTGACTCAGTTGTTGTGGCTCTGCCAGACACTCTCAAATGCCGAGTT  
TCAGATGTTGAGACGTAATTCAATCAATGTTGTTGCGCCACTTGGGCATTGTGGTGAATGCAACATTCAG  
TTTGCCCTTATCCTACCTCAATGGAATACTGCATCATTGAAGTGAATGCCAGACTGTCCCGAAGCTCTG  
CTCTGGCCTCAAAGCCACTGGTACCCATTGGCATTATTGCTGCAAAGATTGCCCTAGGAATCCCACT  
TCCAGAAATTAAGAACGTCGATCCGGGAAGACATCAGCCTGTTTTGAACTAGCCTGGATTACATGGTC  
ACCAAGATTCCCCGCTGGGATCTTGACCGTTTTGATGGAACATCTAGCCGAATTGGTAGCTCTATGAAAA  
GTGTAGGAGAGGTCATGGCTATTGGTCGTAACCTTTGAGGAGAGTTTCCAGAAAGCTTACGGATGTGCCA  
CCCATCTATAGAAGGTTTCACTCCCGTCTCCCAATGAACAAAGAATGGCCATCTAATTTAGATCTTAGA  
AAAGAGTTGTCTGAACCAAGCAGCAGCGTATCTATGCCATTGCCAAGGCCATTGATGACAAACATGTCCC  
TTGATGAGATTGAGAAGCTCACATACATTGACAAGTGGTTTTGTATAAGATGCGTGATATTTAAACAT  
GGAAAAGACACTGAAAGGGCTCAACAGTGAAGTCCATGACAGAAGAAACCTGAAAAGGGCAAAGGAGATT  
GGGTTCTCAGATAAGCAGATTTCAAAAATGCCTTGGGCTCACTGAGGCCAGACAAGGGAGCTGAGGTTAA  
AGAAAAACATCCACCCTTGGGTTAAACAGATTGATACACTGGCTGCAGAAATCCCATCAGTAACAAACTA  
TCTCTATGTTACCTACAATGGTCAGGAGCATGATGTCAATTTTATGACCATGGAATGATGGTGTAGGC  
TGTGGTCCATATCACATTGGCAGCAGTGTGGAATTTGATTGGTGTGCTGTCTCTAGTATCCGCACACTGC  
GTCAACTTGGCAAGAAGACGGTGGTGAATTTGCAATCTGAGACTGTGAGCAGACTGTTGATGAGTGTG  
TGACAAACTGTACTTTGAAGAGTTGTCCTTGGAGAGAATCTAGACATCTACCATCAGGAGGCATGTGGT  
GGCTGCATCATATCAGTTGGAGGCCAGATTCCAAACAACCTGGCAGTTCTCTATACAAGATGGTGCA  
AGATCATGGGCACAAGCCCCCTGCAGATCGACAGGGCTGAGGATCGCTCCATCTTCTCAGCTGTCTTGG  
TGAGCTGAAGGTGGCTCAGGCACCTTGGAAAGCTGTTAATACTTTGAATGAAGCACTGGAATTTGCAAG  
TCTGTGGACTACCCCTGCTTGTGAGGCCCTTCTATGTTTTGAGTGGGTCTGCTATGAATGTGGTATTCT  
CTGAGGATGAGATGAAAAAATCCTAGAAGAGGCGACTAGAGTTTCTCAGGAGCACCCAGTGGCTCTGAC  
AAAATTTGTTGAAGGGGGCCGAGAAGTAGAAATGGACGCTGTTGGCAAAGATGGAAGGGTTATCTCTCAT  
GCCATCTCTGAACATGTTGAAGATGCAGGTGCCACTCGGGAGATGCCACTCTGATGCTGCCACACAAA  
CCATCAGCCAAGGGGCCATTGAAAAGGTGAAGGATGCTACCCGGAAGATTGCAAAGGCTTTTGCCATCTC  
TGGTCCATTCAACGTCCAATTTCTGTCAAAGGAAATGATGTCTTGGTGATTGAGTGAACCTTGAGAGCT  
TCTCGATCCTTCCCCTTTGTTTCCAAGACTCTTGGGGTTGACTTCATTGATGTGGCCACCAAGGTGATGA  
TTGGAGAGAATGTTGATGAGAAACATCTTCCAACATTGGACCATCCCATAAATCTCTGCTGACTATGTTGC  
AATTAAGGCTCCCATGTTTTCTGGCCCCGTTGAGGGATGCTGACCCCATCTGAGATGTGAGATGGCT  
TCCACTGGAGAGGTGGCTTGCTTTGGTGAAGGATTTCAACAGCCTTCTAAAGGCAATGCTTTCCACAG  
GATTTAAGATACCCAGAAAGGCATCCTGATAGGCATCCAGCAATCATTCCGGCCAAGATTCTTGGTGT  
GGCTGAACAATTACACAATGAAGTTCAGCTGTTTCCACGGAAGCCACATCAGACTGGCTCAACGCC  
AACAAATGTCCTGCCACCCAGTGGCATGGCCGTCTCAAGAAGGACAGAATCCACGCTCTCTTCCATCA  
GAAAAATTGATTAGAGATGGCAGCATTGACCTAGTGATTAACTTCCCAACAACAACACTAAATTTGTCCA  
TGATAATTATGTGATTCCGAGGACAGCTGTTGATAGTGAATCCCTCTCCTCACTAATTTTCAGGTGACC  
AAACTTTTGTGAAGCTGTGCAGAAATCTCGCAAGGTGGACTCCAAGAGTCTTTTCCACTACAGGCAGT  
ACAGTGTGAAAAGCAGCA

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
TGGATTACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC213008 representing NM\_001875  
 Red=Cloning site Green=Tags(s)

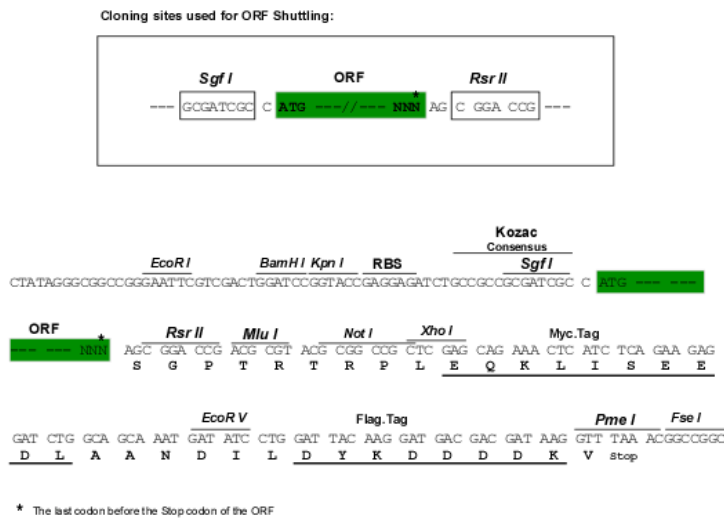
MTRILTAFKVVRTLKTGFNVTAHQKWKFSRPGIRLLSVKAQTAHIVLEDGTMKMGYSFGHPSSVAGE  
 VVFNTGLGGYPEAITDPAYKQILTMANPIIGNGGAPDPTALDELGLSKYLESNQKVSGLLVLDYSKDY  
 NHWLATKSLGQWLQEEKVPAIYGVDRMLTKIIRDKGTMLGKIEFEGQPVDVDPNKQNLIAEVSTKDVK  
 VYGGNPTKVVAVDCGIKNNVIRLLVKRGAEVHLVPWNHDFTKMEYDGLIAGGPNPALAEPLIQNVRK  
 ILESDRKEPLFGISTGNLITGLAAGAKTYKMSMANRGQNQPVLNITNKQAFITAQNHGYALDNTLPAGWK  
 PLFVNVDQTNNEGIMHESKPPFAVQFHPEVTPGPIIDTEYLFDSFFSLIKKGKATTITSVLKPKALVASRV  
 EVSKVLILGSGGLSIGQAGEFDYSGSQAVKAMKEENVKTVLMNPNIASVQTNEVGLKQADTVYFLPITPQ  
 FVTEVIKAEQPDGLILGMGGQALNCGVELFKRGVLKEYGVKVLGTSVESIMATEDRQLFSDKLNEINEK  
 IAPSFAVESIEDALKAADTIGYPMIRSAYALGGLGSGICPNRETLMDLSTKAFAMTNQILVEKSVTGWK  
 EIEYEVVRDADDNCVTVCNMENVDMGVHTGDSVVVAPAQTL SNAEFQMLRRTSINVVRHLGIVGECNIQ  
 FALHPTSMEYCIIEVNARLSRSSALASKATGYPLAFIAAKIALGIPLPEIKNVVSGKTSACFEPSLDYMV  
 TKIPRWLDRFHGTSSRIGSSMKSVGEVMAIGRTFEESFQKALRMCHPSIEGFTPRLP MNKEWPSNLDLR  
 KELSEPSSTRIYAIKAIIDNMSLDEIEKLT YIDKWFLYKMRDILNMEKTLKGLNSESMTEETLKRAKEI  
 GFSDKQISKCLGLTEAQTRELRKKNIHWPVKQIDTLAAEYPSVTNYLYVTYNGQEHDVNFDDHGMMLVG  
 CGPYHIGSSVEFDWCAVSSIRTLRQLGKKT VVVNCPETVSTDFDECDKLYFEELSLERILDIYHQEACG  
 GCIIISVGGQIPNNLAVPLYKNGVKIMGTSPLQIDRAEDRSIFSAVLDELKVAQAPWKAVENTLNEALEFAK  
 SVDYPCLLRPSYVLSGSAMNVVSEDEMCKFLEEATRSQEHPPVLT K FVEGAREVEMDAVGKDRVISH  
 AISEHVEDAGVHSGDATLMLPTQTI SQGAI EKVKDATRKIAKAF AISGPFNVQFLVKGNDVLVIECNLRA  
 SRSFPFVSKTLGVDFIDVATKVMIGENVDEKHLPTLDHP IIPADYVAIKAPMFSWPRLRDADPILRCEMA  
 STGEVACFGEIHTAFLKAMLSTGFKIPQKGILIGIQSFRPFLGVAEQLHNEGFKLFATEATSDWLNNA  
 NNPATPVAWPSQEGQNPSSLSSIRKLIRDGSDLVINLPNNNTK FVHDNYVIRRTAVDSGIPLLTNFQVT  
 KLFAEAVQSRKVDKSLFHYRQYSAGKAA

SGP TRTRRLEQKLI SEEDLAANDILDYKDDDDKV

Chromatograms: [https://cdn.origene.com/chromatograms/ja1607\\_a07.zip](https://cdn.origene.com/chromatograms/ja1607_a07.zip)

Restriction Sites: SgfI-RsrII

Cloning Scheme:



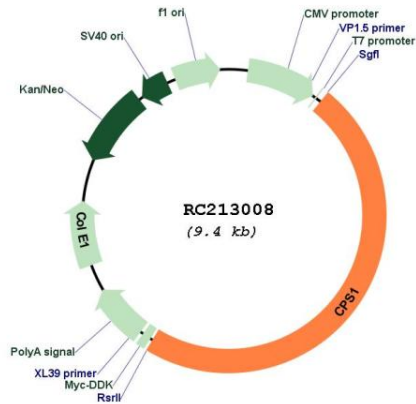
ACCN: NM\_001875

<b>ORF Size:</b>	4500 bp
<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_001875.2</a> , <a href="#">NP_001866.2</a>
<b>RefSeq Size:</b>	5761 bp
<b>RefSeq ORF:</b>	4503 bp
<b>Locus ID:</b>	1373
<b>UniProt ID:</b>	<a href="#">P31327</a>
<b>Cytogenetics:</b>	2q34
<b>Domains:</b>	GATase, CPSase_sm_chain, MGS, CPSase_L_D2, CPSase_L_D3, CPSase_L_chain
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Alanine, aspartate and glutamate metabolism, Arginine and proline metabolism, Metabolic pathways, Nitrogen metabolism
<b>MW:</b>	164.94 kDa

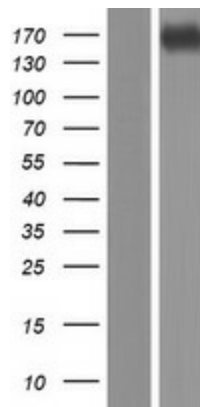
**Gene Summary:**

The mitochondrial enzyme encoded by this gene catalyzes synthesis of carbamoyl phosphate from ammonia and bicarbonate. This reaction is the first committed step of the urea cycle, which is important in the removal of excess urea from cells. The encoded protein may also represent a core mitochondrial nucleoid protein. Three transcript variants encoding different isoforms have been found for this gene. The shortest isoform may not be localized to the mitochondrion. Mutations in this gene have been associated with carbamoyl phosphate synthetase deficiency, susceptibility to persistent pulmonary hypertension, and susceptibility to venoocclusive disease after bone marrow transplantation.[provided by RefSeq, May 2010]

**Product images:**



Circular map for RC213008



Western blot validation of overexpression lysate (Cat# [LY419674]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC213008 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).