

## Product datasheet for **RC220566**

### CTPS2 (NM\_175859) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	CTPS2 (NM_175859) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CTPS2
Synonyms:	GATD5B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RC220566 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAAGTACATCCTGGTCACGGGTGGGGTCATCTCAGGCATTGGTAAAGGGATCATTGCCAGCAGCATTG  
 GAACGATTCTAAAATCATGTGGACTCCGAGTTACTGCCATAAAAATCGACCCCTATATTAACATCGATGC  
 TGGCACTTTTTACCTTATGAACACGGTGAAGTCTTCGCTTAAATGATGGTGGAGAAGTTGATTTAGAC  
 CTTGGAAATTATGAAAGATTTTTGGATATTAATCTTTATAAAGACAACAATATCACCACGGGGAAGATAT  
 ATCAGCATGTGATCAATAAAGAGAGGCGTGGTATTACCTGGGAAAACAGTGAAGTTGTCCCTCACAT  
 TACTGATGCTGTCCAGGAGTGGTTATGAATCAAGCCAAGGTGCCGGTGGATGTAATAAGGAAGAGCCC  
 CAAATATGCGTTATTGAGCTGGGAGGCACCATTGGAGACATCGAAGGAATGCCGTTTGTGGAGGCGTTTA  
 GACAATCCAGTTAAGGCGAAAAGAGAGAATTTCTGTAATATCCACGTTAGCCTTGTCCCACAGCTCAG  
 TGCTACCGGAGAACAAAAACCAACCCACCCAAAACAGCGTCCGCGCACTGAGGGGTTTAGGCCTGTCT  
 CCAGATCTGATTGTCTGCCGAAGTTCAACGCCATTGAGATGGCCGTGAAGGAGAAGATTTCTATGTTTT  
 GTCACGTGAACCCGTAACAGGTCATATGTATCCATGATGTTTTCTCCACATACCGAGTTCCTGTGCTTTT  
 AGAGGAACAAAGCATTGTGAAATATTTAAGGAGAGATTGCACCTGCCATCGGTGATTCTGCAAGTAAT  
 TTGCTTTTTAAGTGGAGAAATATGGCTGACAGGTATGAAAGGTTACAGAAAATATGCTCCATAGCCCTGG  
 TTGGCAAATACACCAAGCTCAGAGACTGCTACGCCTCTGTGTTCAAAGCCCTGGAACACTCAGCCCTGGC  
 CATCAACCACAAGTTGAATCTGATGTACATAGACTCCATTGATCTGGAGAAGTCACTGAAACCGAGGAC  
 CCTGTGAAATTTTATGAAGCTTGGCAGAAGCTATGCAAAGCTGATGGTATTCTTGTGCTGGAGGCTTTG  
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 TGGGAGGAACAATGAGACTGGGAATAAGAAGAAGTGTCTTCAAACCTGAAAATTCATATTAAGGAACT  
 TTATGGTATGTTCTTTTATAGAAGAAAGACACAGACATCGGTTGAGGTAAACCCTAACCTGATCAAA  
 CAATTTGAGCAGAATGACTTAAGTTTTGTAGGTCAGGATGTTGATGGAGACAGGATGAAATCATTGAAC  
 TGGCAAATCATCCTATTTTGTGGTGTCCAGTCCATCTGAGTTTTCTTCTAGCCGATGAAGCCTTC  
 CCCTCCGATCTGGGCTGTACTTGCAGCAACTGGGAACCTGAATGCCTACTTGAACAGGTTGCAA  
 CTGCTTCCAGTGATAGATACAGTGATGCCAGTGATGACAGCTTTTCAGAGCCAAGGATAGCTGAGTTGG  
 AAATAAGC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC220566 protein sequence  
 Red=Cloning site Green=Tags(s)

MKYILVTGGVISGIGKGIASSIGTILKSCGLRVTAIKIDPYINIDAGTFSPYEHGEVFLNDGGEVDLD  
 LGNYERFLDINLYKDNNTTGGIYQHVINKERRGDLGKTVQVPHITDAVQEWVMNQAKVPVDGNKEEP  
 QICVIELGGTIGDIEGMPFVEAFRQFQFKAKRENFCNIHVSLVPQLSATGEQKTKPTQNSVRALRGLGLS  
 PDLIVCRSSTPIEMAVKEKISMFCNVNPEQVICIHDVSSYRVPVLLLEEQSIKVFYKERLHLPIGDSASN  
 LLFKWRNMADRYERLQKICSIALVGKYTKLRDCYASVFKALEHSALAINHKLNLMYIDSIDLEKITETED  
 PVKFHEAWQKLCKADGILVPGFGIRGTLGKLQAI SWARTKKIPFLGVCLGMQLAVIEFARNCLNLKDAD  
 STEFRPNAPVPLVIDMPEHNPGNLGGTMRGIRRTVFKTENSILRKYGDVPIEERHRHREVNPNLIK  
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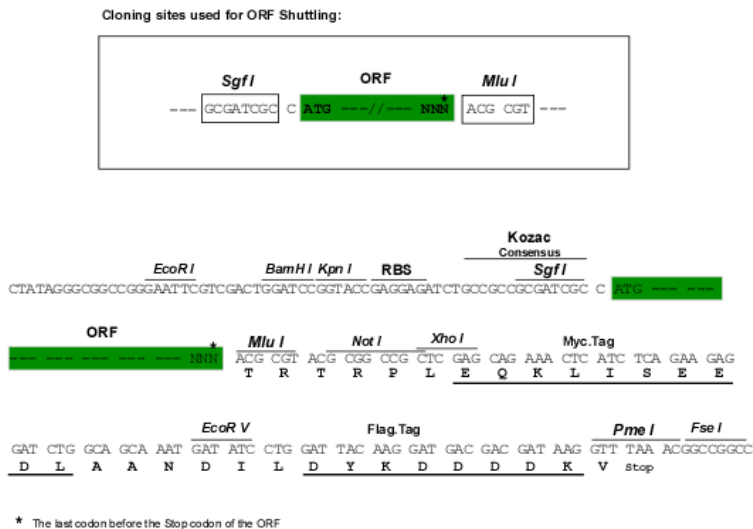
**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6534\\_d03.zip](https://cdn.origene.com/chromatograms/mk6534_d03.zip)

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM\_175859

ORF Size: 1758 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\\_175859.3](#)

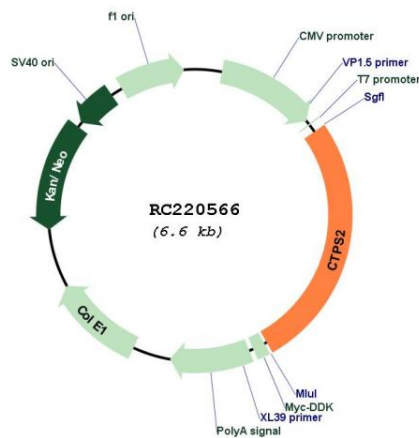
RefSeq Size: 3973 bp

RefSeq ORF: 1761 bp

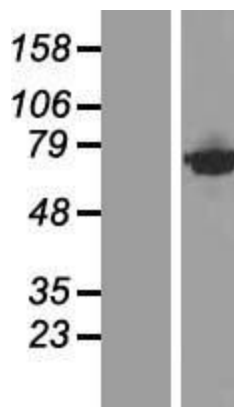
Locus ID: 56474

**UniProt ID:** [Q9NRF8](#)  
**Cytogenetics:** Xp22.2  
**Protein Pathways:** Metabolic pathways, Pyrimidine metabolism  
**MW:** 65.7 kDa  
**Gene Summary:** The protein encoded by this gene catalyzes the formation of CTP from UTP with the concomitant deamination of glutamine to glutamate. This protein is the rate-limiting enzyme in the synthesis of cytosine nucleotides, which play an important role in various metabolic processes and provide the precursors necessary for the synthesis of RNA and DNA. Cancer cells that exhibit increased cell proliferation also exhibit an increased activity of this encoded protein. Thus, this protein is an attractive target for selective chemotherapy. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Aug 2013]

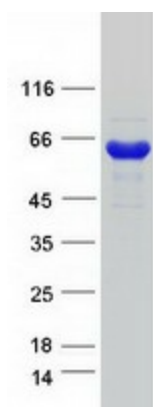
### Product images:



Circular map for RC220566



Western blot validation of overexpression lysate (Cat# [LY428462]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with [RC226565] using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CTPS2 protein (Cat# [TP320566]). The protein was produced from HEK293T cells transfected with CTPS2 cDNA clone (Cat# RC220566) using MegaTran 2.0 (Cat# [TT210002]).