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# Product datasheet for RC205993

## CTPS2 (NM_019857) Human Tagged ORF Clone

### Product data:

| | |
|---|---|
| **Product Type:** | Expression Plasmids |
| **Product Name:** | CTPS2 (NM_019857) 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) |



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**ORF Nucleotide Sequence:**

>RC205993 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAAGTACATCCTGGTCACGGGTGGGGTCATCTCAGGCATTGGTAAAGGGATCATTGCCAGCAGCATTG
GAACGATTCTAAAATCATGTGGACTCCGAGTTACTGCCATAAAAATCGACCCCTATATTAACATCGATGC
TGGCACTTTTTCACCTTATGAACACGGTGAAGTCTTCGTCTTAAATGATGGTGGAGAAGTTGATTTAGAC
CTTGGAAATTATGAAAGATTTTTGGATATTAATCTTTATAAAGACAACAATATCACCACGGGGAAGATAT
ATCAGCATGTGATCAATAAAGAGAGGCGTGGTGATTACCTGGGGAAAACAGTGCAAGTTGTCCCTCACAT
TACTGATGCTGTCCAGGAGTGGGTTATGAATCAAGCCAAGGTGCCGGTGGATGGTAATAAGGAAGAGCCC
CAAATATGCGTTATTGAGCTGGGAGGCACCATTGGAGACATCGAAGGAATGCCGTTTGTGGAGGCGTTTA
GACAATTCCAGTTTAAGGCGAAAAGAGAGAATTTCTGTAATATCCACGTTAGCCTTGTCCCACAGCTCAG
TGCTACCGGAGAACAAAAAACCAAACCCACCCAAAACAGCGTCCGCGCACTGAGGGGTTTAGGCCTGTCT
CCAGATCTGATTGTCTGCCGAAGTTCAACGCCCATTGAGATGGCCGTGAAGGAGAAGATTTCTATGTTTT
GTCACGTGAACCCTGAACAGGTCATATGTATCCATGATGTTTCTTCCACATACCGAGTTCCTGTGCTTTT
AGAGGAACAAAGCATTGTGAAATATTTTAAGGAGAGATTGCACCTGCCCATCGGTGATTCTGCAAGTAAT
TTGCTTTTTAAGTGGAGAAATATGGCTGACAGGTATGAAAGGTTACAGAAAATATGCTCCATAGCCCTGG
TTGGCAAATACACCAAGCTCAGAGACTGCTACGCCTCTGTGTTCAAAGCCCTGGAACACTCAGCCCTGGC
CATCAACCACAAGTTGAATCTGATGTACATAGACTCCATTGATCTGGAGAAGATCACTGAAACCGAGGAC
CCTGTGAAATTTCATGAAGCTTGGCAGAAGCTATGCAAAGCTGATGGTATTCTTGTGCCTGGAGGCTTTG
GAATCAGAGGAACATTGGGAAAACTCCAGGCGATTTCTTGGGCAAGGACAAAGAAGATTCCTTTTCTGGG
AGTTTGTCTTGGGATGCAACTAGCAGTGATAGAGTTTGCAAGAAACTGCCTTAACTTGAAAGATGCTGAT
TCCACAGAGTTTAGGCCAAATGCCCCAGTTCCTCTGGTGATTGATATGCCCGAGCACAACCCTGGCAATT
TGGGAGGAACAATGAGACTGGGAATAAGAAGAACTGTTTTCAAAACTGAAAATTCAATATTAAGGAAACT
TTATGGTGATGTTCCTTTTATAGAAGAAAGACACAGACATCGGTTCGAGGTAAACCCTAACCTGATCAAA
CAATTTGAGCAGAATGACTTAAGTTTTGTAGGTCAGGATGTTGATGGAGACAGGATGGAAATCATTGAAC
TGGCAAATCATCCTTATTTTGTTGGTGTCCAGTTCCATCCTGAGTTTTCTTCTAGGCCGATGAAGCCTTC
CCCTCCGTATCTGGGGCTGTTACTTGCAGCAACTGGGAACCTGAATGCCTACTTGCAACAGGGTTGCAAA
CTGTCTTCCAGTGATAGATACAGTGATGCCAGTGATGACAGCTTTTCAGAGCCAAGGATAGCTGAGTTGG
AAATAAGC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC205993 protein sequence
Red=Cloning site Green=Tags(s)

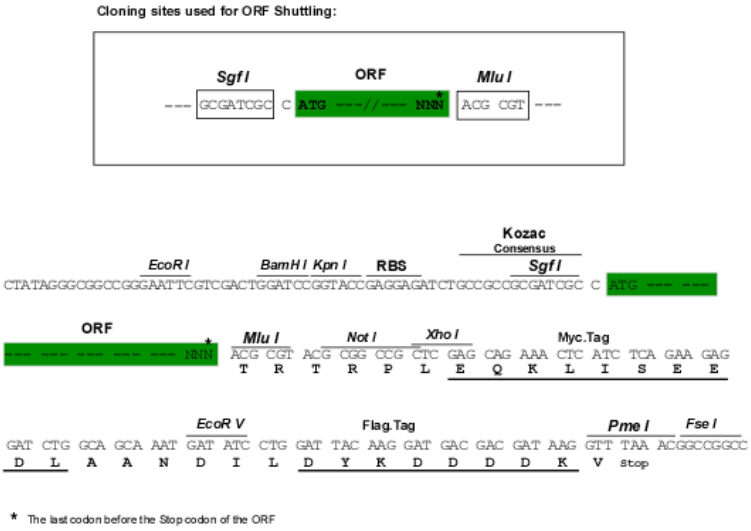
MKYILVTGGVISGIGKGIIASSIGTILKSCGLRVTAIKIDPYINIDAGTFSPYEHGEVFVLNDGGEVDLD
LGNYERFLDINLYKDNNITTGKIYQHVINKERRGDYLGKTVQVVPHITDAVQEWVMNQAKVPVDGNKEEP
QICVIELGGTIGDIEGMPFVEAFRQFQFKAKRENFCNIHVSLVPQLSATGEQKTKPTQNSVRALRGLGLS
PDLIVCRSSTPIEMAVKEKISMFCHVNPEQVICIHDVSSTYRVPVLLEEQSIVKYFKERLHLPIGDSASN
LLFKWRNMADRYERLQKICSIALVGKYTKLRDCYASVFKALEHSALAINHKLNLMYIDSIDLEKITETED
PVKFHEAWQKLCKADGILVPGGFGIRGTLGKLQAISWARTKKIPFLGVCLGMQLAVIEFARNCLNLKDAD
STEFRPNAPVPLVIDMPEHNPGNLGGTMRLGIRRTVFKTENSILRKLYGDVPFIEERHRHRFEVNPNLIK
QFEQNDLSFVGQDVDGDRMEIIELANHPYFVGVQFHPEFSSRPMKPSPPYLGLLLAATGNLNAYLQQGCK
LSSSDRYSDASDDSFSEPRIAELEIS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** https://cdn.origene.com/chromatograms/mk6534_d03.zip

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**




**ACCN:** NM_019857

**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_019857.5

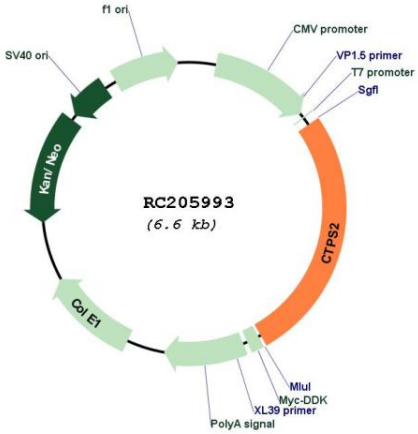
**RefSeq Size:** 3887 bp

**RefSeq ORF:** 1761 bp

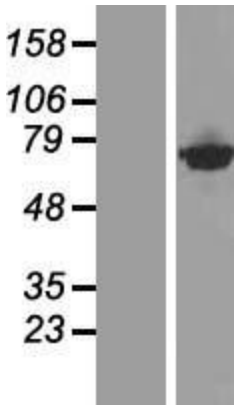
**Locus ID:** 56474

| | |
|---|---|
| **UniProt ID:** | Q9NRF8 |
| **Cytogenetics:** | Xp22.2 |
| **Domains:** | GATase |
| **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] |

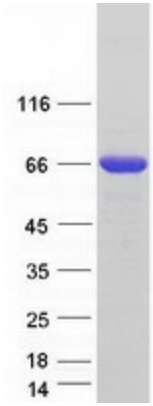
## Product images:




Circular map for RC205993




Western blot validation of overexpression lysate (Cat# [LY428462]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected 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# [TP305993]). The protein was produced from HEK293T cells transfected with CTPS2 cDNA clone (Cat# RC205993) using MegaTran 2.0 (Cat# [TT210002]).