

## Product datasheet for **RG220733**

### COASY (NM\_025233) Human Tagged ORF Clone

#### Product data:

|                           |  |
|---------------------------|--|
| Product Type:             | Expression Plasmids                        |
| Product Name:             | COASY (NM_025233) Human Tagged ORF Clone   |
| Tag:                      | TurboGFP                                   |
| Symbol:                   | COASY                                      |
| Synonyms:                 | DPCK; NBIA6; NBP; PCH12; pOV-2; PPAT; UKR1 |
| Mammalian Cell Selection: | Neomycin                                   |
| Vector:                   | pCMV6-AC-GFP (PS100010)                    |
| E. coli Selection:        | Ampicillin (100 ug/mL)                     |



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**ORF Nucleotide Sequence:**

>RG220733 representing NM\_025233  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCGTATCCGGTCGGGTCTCTGGTGTGACGACGCGCTGGCCTCCCTAGCCCTCGCCTGGCCT  
 CCATCCTGACCTCGGCGGCCCGCTGGTGAATCACACTCTATGTTACCTGCAGCCGGCATGAGCCT  
 GGAGGGCCCGGCTCAGCCCCAGTACAGCCCGTGCAGGCCACGTTTGAGGTTCTTGATTTATCAGCGAC  
 CTCTATGCTGGCGCCGACGTCCACAGGCACTTGGACGTGAGAATCCTACTGACCAATATCCGAACCAAGA  
 GCACCTTTCTCCCTCCCTGCCACCTCAGTCCAGAATCTCGCCACCCGCCAGAAGTCGTGTTGACAGA  
 TTTCCAGACCCTGGATGGAAGCCAGTACAACCCGGTCAAACAGCAGCTAGTGCCTTACGCCACCAGCTGT  
 TACAGCTGTTGTCGCGACTGGCCTCGGTGCTGCTATACTCCGATTATGGGATAGGAGAAGTGCCCGTGG  
 AGCCCTGGATGTCCCTTACCCTCCACGATCAGGCCAGCTTCCCCGTGGCCGGTCTCCAAGCAGCC  
 GGTGCGTGGCTACTACCGTGGCGTGTGGTGGCAGCTTGGACCGCTGCACAACGCCACAAGGTGTTG  
 CTAGTGTGCGGTGCATCCTGGCCAGGAGCAGCTTGTGGTGGGAGTAGCAGACAAGATCTGTTGAAGA  
 GCAAGTTGCTCCCTGAGCTGCTCCAACCTTATACAGAACGTGTGGAACATCTGAGTGAATTCCTGGTGG  
 CATCAAGCCCTCCTTGACTTTTGATGTCATCCCCCTGCTGGACCCCTATGGGCCCGCTGGCTCTGACCC  
 TCCCTGGAGTTCTCTGGTGGTCCAGCAGGAGACCTATCGTGGGGGATGGCCATCAACCGCTTCCGCTTG  
 AGAATGACCTGGAGAACTTGCTTTGTACCAGATCCAGCTGCTGAAGGACCTCAGACATACGGAGAATGA  
 AGAGGACAAAGTCAGCTCCTCCAGCTCCGCCAGCGAATGTTGGGAACTGCTTCGGCTCCATATGAA  
 AGGCCAGACTCCCCACATGTCTCTATGTAATTGGCTGACTGGCATCAGTGGCTCTGGGAAGAGCTCAA  
 TAGCTCAGCGACTGAAGGGCTGGGGCTGTTGTCATTGACAGTACCACCTGGGTCATCGGGCTATGC  
 CCCAGTGGCCCTGCCTACCAGCCTGTGGTGGAGGCCCTTGAACAGATATTCTCCATAAAGATGGCATC  
 ATCAACAGGAAGTCTAGGACGCGGGTGTGGGAATAAGAAGCAGCTGAAGATACTACGGACATTA  
 TGTGGCAATTATCGAAAGCTGGCCCGAGAGGAGATGGATCGGGCTGTGGCTGAGGGAAAGCGTGTGTG  
 TGTGATTGATGCCGTGTGTTGCTTGAAGCCGGCTGGCAGAACCTGGTCCATGAGGTGTGGACTGCTGTC  
 ATCCAGAGACTGAGGCTGTAAGACGATTGTGGAGAGGGATGGCCTCAGTGAAGCCGGCTCAAAGCC  
 GGCTGCAGAGCCAGATGAGCGGGCAGCAGCTTGTGGAACAGGCCACGTGGTGTCTCAGCACCTTGTGGGA  
 GCCGATATACCCAACGCCAGGTGGAGAAAGCCTGGGCCCTTGCAGAAGCGCATTCCAAGACTCAT  
 CAGGCCCTCGAC

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>RG220733 representing NM\_025233  
 Red=Cloning site Green=Tags(s)

MAVFRSGLLVLTTPLASLAPRLASILTSAARLVNHTLYVHLQPGMSLEGPAQPQYSPVQATFEVLDIFITH  
 LYAGADVHRHLDVRIILLTNIRTKSTFLPPLPTSVQNLAHPPPEVLTDFQTL DGSQYNPVKQQLVRYATSC  
 YSCCPRLASVLLYSYDYGIVPEPLDVPLPSTIRPASPVAGSPKQPVRGYRGA VGGTFDRLHNAHKVL  
 LSVACILAQEQLVVGVDKDLLKSKLLPELLQPYTERVEHLSEFLVDIKPSLTFDVIPLLDYPGAGSDP  
 SLEFLVSEETYRGMALNRFRENDLEELALYQIQLLKDRLHTENEEDKVSSSSFRQRLGNLLRPPYE  
 RPELPTCLYVIGLTGISGSKSSIAQRLKGLGAFVIDSDHLGHRAYAPGGPAYQPVVEAFGTDILHKDGI  
 INRKVLGSRVFGNKKQLKILTDIMWPIIAKLAREEMDRAVAEGKRVCVIDAAVLLLEAGWQNLVHEVWTAV  
 IPETEAVRRIVERDGLSEAAAQSRQLSQMSGQQLVEQSHVVLSTLWEPHITQRQVEKAWALLQKRIPKTH  
 QALD

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_025233

**ORF Size:** 1692 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\\_025233.4](#), [NP\\_079509.4](#)

**RefSeq Size:** 2470 bp

**RefSeq ORF:** 1695 bp

**Locus ID:** 80347

**UniProt ID:** [Q13057](#)

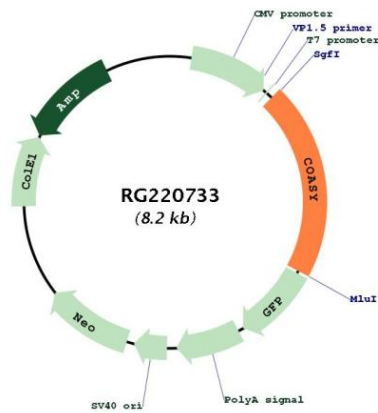
**Cytogenetics:** 17q21.2

**Domains:** CoaE, CTP\_transf\_2

**Protein Pathways:** Metabolic pathways, Pantothenate and CoA biosynthesis

**Gene Summary:** Coenzyme A (CoA) functions as a carrier of acetyl and acyl groups in cells and thus plays an important role in numerous synthetic and degradative metabolic pathways in all organisms. In eukaryotes, CoA and its derivatives are also involved in membrane trafficking and signal transduction. This gene encodes the bifunctional protein coenzyme A synthase (CoAsy) which carries out the last two steps in the biosynthesis of CoA from pantothenic acid (vitamin B5). The phosphopantetheine adenylyltransferase domain of this bifunctional protein catalyzes the conversion of 4'-phosphopantetheine into dephospho-coenzyme A (dpCoA) while its dephospho-CoA kinase domain completes the final step by phosphorylating dpCoA to form CoA. Mutations in this gene are associated with neurodegeneration with brain iron accumulation (NBIA). Alternative splicing results in multiple isoforms. [provided by RefSeq, Apr 2014]

**Product images:**



Circular map for RG220733