

## Product datasheet for **RG200473**

### GCDH (NM\_000159) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	GCDH (NM_000159) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	GCDH
Synonyms:	ACAD5; GCD
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG200473 representing NM_000159 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCCCTGAGAGGCGTCTCCGTGCGGCTGCTGAGCCGCGGACCCGGCCTGCACGTCTTCGCACGTGGG  
TCTCGTCGGCGGCAGACCCGAGAAAGCGGGGAGAACACAGACCAACTGGCTAAGTCTCGCGTCCCGA  
GTTTGACTGGCAGGACCCGCTGGTGTGGAGGAGCAGCTGACCACAGATGAGATCCTCATCAGGGACACC  
TTCCGCACCTACTGCCAGGAGAGACTCATGCCTCGCATCTGTTGGCCAATCGCAACGAAGTTTTTCATC  
GGGAGATCATTTTCGGAGATGGGGGAGTTGGGTGTGCTGGGCCCCACCATCAAAGGATATGGCTGTGCTGG  
GGTTTCGTCTGTGGCCTATGGGCTCCTGGCCCGAGAGCTGGAGCGGGTGGACAGTGGCTACAGGTCGGCG  
ATGAGTGTCCAGTCTCCCTCGTCATGCACCCTATCTATGCCTATGGCAGCGAGGAACAGCGGCAGAAGT  
ACCTGCCCCAGCTGGCCAAGGGGGAGCTCCTGGGCTGCTTCGGGCTCACAGAGCCCAACAGCGGAAGTGA  
CCCCAGCAGCATGGAGACCAGAGCCCACTACAACCTCATCCAACAAGAGCTACACCCTCAATGGGACCAAG  
ACCTGGATCACGAACTCGCTATGGCCGATCTGTTGTAGTGTGGGCTCGGTGTGAAGATGGCTGCATTC  
GGGGCTTCCTGCTGGAGAAGGGGATGCGGGTCTCTCGGCCCCAGGATCCAGGGCAAGTTCTCGCTGCG  
GGCCTCAGCCACAGGCATGATCATGGACGGTGTGGAGGTGCCAGAGGAGAATGTGCTCCCTGGTGCA  
TCCAGCCTGGGGGTCCCTTCGGCTGCCGTAACAACGCCCGGTACGGCATCGCTGGGGCGTCTGGAG  
CTTCGGAGTTCTGCTTGACACAGCCCGGCAGTACGCCCTCGACAGGATGCAGTTTGGTGTCCCACTGGC  
CAGGAACCAGCTGATTCAGAAGAAGCTGGCAGACATGCTCACTGAGATTACCCTGGGCTTCACGCCTGC  
CTGCAGCTCGGCCGCTTGAAGGACCAGGACAAGGCTGCCCCGAGATGGTTTCTGCTGGAAGGAATA  
ACTGTGGAAAGCCCTGGACATCGCCCGCAGGCCGAGACATGCTGGGGGGAATGGGATTTCTGACGA  
GTATCACGTGATCCGGCACGCCATGAACCTGGAGGCCGTGAACACCTACGAAGGTACACATGACATTAC  
GCCCTGATCCTTGGGAGAGCTATCACGGGAATCCAGGCCGTTACGGCCAGCAAG

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >RG200473 representing NM\_000159  
Red=Cloning site Green=Tags(s)

MALRGVSVRLLSRGPGLHVLRTWVSSAAQTEKGGRTQSQLAKSSRPEFDWQDPLVLEEQLTTDEILIRD  
 FRTYCQERLMPRIILLANRNEVFHREIISEMDELGVLGPTIKGYGCAGVSSVAYGLLARELERVDSGYRSA  
 MSVQSSLVMHPIYAYGSEEQKQKYLPLAKGELLGCFGLTEPNSGSDPSSMETRAHYNSSNKSYTLNGTK  
 TWITNSPMADLFVWARCEDGCIKRGFLLEKGMRLSAPRIQKFSLRASATGMIIMDGVPEENVLPGA  
 SSLGGPFGLNNARYGIAWGVLGASEFCLHTARQYALDRMQFGVPLARNQLIQKLLADMLTEITLGLHAC  
 LQLGRLKDQDKAAPMVSLKRNNGKALDIARQARDMLGGNGISDEYHVIIRHAMNLEAVNTYEGTHDIH  
 ALILGRAITGIQAFTASK

TRTRPLE – GFP Tag – V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_000159

**ORF Size:** 1314 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\\_000159.4](#)

**RefSeq Size:** 1839 bp

**RefSeq ORF:** 1317 bp

**Locus ID:** 2639

**UniProt ID:** [Q92947](#)

**Cytogenetics:** 19p13.13

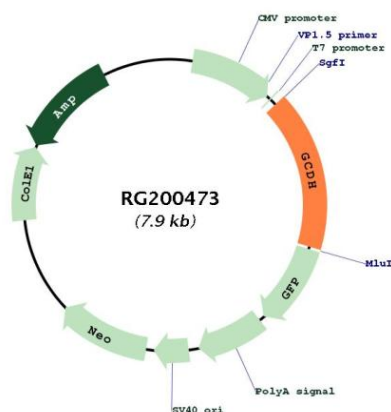
**Domains:** Acyl-CoA\_dh, Acyl-CoA\_dh\_M, Acyl-CoA\_dh\_N

**Protein Families:** Druggable Genome

**Protein Pathways:** Fatty acid metabolism, Lysine degradation, Metabolic pathways, Tryptophan metabolism

**Gene Summary:** The protein encoded by this gene belongs to the acyl-CoA dehydrogenase family. It catalyzes the oxidative decarboxylation of glutaryl-CoA to crotonyl-CoA and CO(2) in the degradative pathway of L-lysine, L-hydroxylysine, and L-tryptophan metabolism. It uses electron transfer flavoprotein as its electron acceptor. The enzyme exists in the mitochondrial matrix as a homotetramer of 45-kD subunits. Mutations in this gene result in the metabolic disorder glutaric aciduria type 1, which is also known as glutaric acidemia type I. Alternative splicing of this gene results in multiple transcript variants. A related pseudogene has been identified on chromosome 12. [provided by RefSeq, Mar 2013]

## Product images:



Circular map for RG200473