

Product datasheet for **RG223159**

P5CS (ALDH18A1) (NM_001017423) Human Tagged ORF Clone

Product data:

| | |
|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | P5CS (ALDH18A1) (NM_001017423) Human Tagged ORF Clone |
| Tag: | TurboGFP |
| Symbol: | P5CS |
| Synonyms: | ADCL3; ARCL3A; GSAS; P5CS; PYCS; SPG9; SPG9A; SPG9B |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-AC-GFP (PS100010) |
| E. coli Selection: | Ampicillin (100 ug/mL) |



[View online »](#)

ORF Nucleotide Sequence:

>RG223159 representing NM_001017423
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGTTGAGTCAAGTTTACCCTGTGGTCCAGCCCTTCAACCAACATCTTCTGCCTGGTCAAGTGTA
 CAACCGTCTTCAGATCTCATTGTATCCAGCCTTCAGTCATCAGACATGTTGTTCTGGAGCAACATCCC
 GTTTATCACTGTACCCCTCAGTCGTACACATGGCAAGTCCTCGCCACCAGCAGTGAGCTGAAGCATGCC
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 CCTCCAGGACAGCGTGGGACGTGTTTTGCGCCGACCCGAATCGCCAAAAAATTGGAAGTGAACAAAGT
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 GGGACCAAGTGGACTTGGGGACTGCTTACTACTAAGTGGCTGCTGCGAGGGAAGGACCAGTGGTCTCA
 GATTTCTCAGAGCATGGAAGTTTAAAATATCTTCATGAGAACCTCCCTATTCTCAGAGAAACACCAAC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence: >RG223159 representing NM_001017423
 Red=Cloning site Green=Tags(s)

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MLSQVYRCGFQPFNQHLLPWVKCTTVFRSHCIQPSVIRHVRSWSNIPFITVPLSRTHGKSF AHRSELKHA
KRIVVKLGSVVTRGDEGLALGRLASIVEQVSVLQNGREMMLVTSGAVAFGKQRLRHEILLSQSVRQA
LHSGQNQLKEMAIIPVLEARACAAAGQSGLMALYEAMFTQYSICAAQILVTNLDFHDEQKRRNLNGLHEL
LRMNIVIPVNTNDAVVPPAEPNSDLQGVISVKDNDSLAARLAVEMKTDLLIVLSDVEGLFDSPPGSDDAK
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LVRDIQKAAKIPVMGHSEGICHMYVDSEASVDKVTRLVRDSKCEYPAACNALETLLIHRDLLRTP LFDQ
IIDMLRVEQVKIHAGPKFASYLTFSPSEVKSRLTEYGDLELCIEVVDNVQDAIDHIHKYGSSTHDVIVTE
DENTAEEFFLQHVDSACVFNASTRFSDGYRFLGAEVGI STSRIHARGPVGLEGLLTTKLLLRGKDHVVS
DFSEHGSLKYLHENLPIQRNTN
  
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TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001017423

ORF Size: 2379 bp

OTI Disclaimer: 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 custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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_001017423.2](#)

RefSeq Size: 3464 bp

RefSeq ORF: 2382 bp

Locus ID: 5832

UniProt ID: [P54886](#)

Cytogenetics: 10q24.1

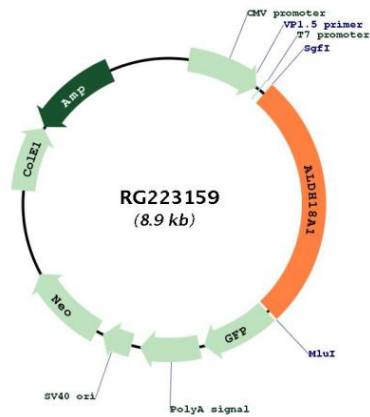
Protein Families: Druggable Genome

Protein Pathways: Arginine and proline metabolism, Metabolic pathways

Gene Summary:

This gene is a member of the aldehyde dehydrogenase family and encodes a bifunctional ATP- and NADPH-dependent mitochondrial enzyme with both gamma-glutamyl kinase and gamma-glutamyl phosphate reductase activities. The encoded protein catalyzes the reduction of glutamate to delta1-pyrroline-5-carboxylate, a critical step in the de novo biosynthesis of proline, ornithine and arginine. Mutations in this gene lead to hyperammonemia, hypooornithinemia, hypocitrullinemia, hypoargininemia and hypoprolinemia and may be associated with neurodegeneration, cataracts and connective tissue diseases. Alternatively spliced transcript variants, encoding different isoforms, have been described for this gene. [provided by RefSeq, Jul 2008]

Product images:



Circular map for RG223159