

Product datasheet for **SC302048**

P5CS (ALDH18A1) (NM_001017423) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	P5CS (ALDH18A1) (NM_001017423) Human Untagged Clone
Tag:	Tag Free
Symbol:	ALDH18A1
Synonyms:	ADCL3; ARCL3A; GSAS; P5CS; PYCS; SPG9; SPG9A; SPG9B
Vector:	pCMV6-Entry (PS100001)



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Fully Sequenced ORF: >SC302048 representing NM_001017423.
 Blue=Insert sequence Red=Cloning site Green=Tag(s)

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ATGTTGAGTCAAGTTTACCGCTGTGGGTTCCAGCCCTTCAACCAACATCTTCTGCCCTGGGTCAAGTGT
ACAACCGTCTTCAGATCTCATTGTATCCAGCCTTCAGTCATCAGACATGTTTCGTTCTTGGAGCAACATC
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TGGCTGCTGCGAGGGAAGGACCAGTGGTCTCAGATTTCTCAGAGCATGGAAGTTAAAAATCTTTCAT
GAGAACCTCCCTATTCTCAGAGAAACACCAAC TGA
  
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Restriction Sites: ECoRI-NOT

Plasmid Map: □

ACCN: NM_001017423

Insert Size: 2382 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 TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.

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_001017423.1](#)

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

MW: 87.1 kDa

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, hypoonithinemia, 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]

Transcript Variant: This variant (2), also known as P5Cs, uses an alternate in-frame splice site, compared to variant 1, resulting in a shorter isoform (2). Variants 2 and 6 both encode the same isoform (2).