

Product datasheet for **RC210726**

P5CS (ALDH18A1) (NM_002860) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	P5CS (ALDH18A1) (NM_002860) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ALDH18A1
Synonyms:	ADCL3; ARCL3A; GSAS; P5CS; PYCS; SPG9; SPG9A; SPG9B
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide
Sequence:

>RC210726 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGCATCGCC**

ATGTTGAGTCAAGTTTACCCTGTGGGTTCCAGCCCTTCAACCAACATCTTCTGCCCTGGGTCAAGTGTA
CAACCGTCTTCAGATCTCATTGTATCCAGCCTTCAGTCATCAGACATGTTGTTCTTGGAGCAACATCCC
GTTTATCACTGTACCCCTCAGTCGTACACATGGCAAGTCCTTCGCCACCGCAGTGAGCTGAAGCATGCC
AAGAGAATCGTGGTGAAGCTCGGCAGTGGCGTGGTACCCGAGGGGATGAATGTGGCCTGGCCCTGGGGC
GCTTGGCATCTATTGTTGAGCAGGTATCAGTGTGCAGAATCAGGGCAGAGAGATGATGCTGGTACCCAG
TGGAGCCGTAGCCTTGGCAAACAACGCTTGCGCCATGAGATCCTTCTGTCTCAGAGCGTGGCCAGGCC
CTCCACTCGGGGACAGACAGCTGAAAGAAATGGCAATTCAGTCTTAGAGGCACGAGCCTGTGCAGCTG
CCGGACAGAGTGGGCTGATGGCCTTGTATGAGGCTATGTTTACCCAGTACAGCATCTGTGCTGCCAGAT
TTTGGTGACCAATTTGGATTTCCATGATGAGCAGAAGCGCCGGAACCTCAATGGAACACTTCATGAACTC
CTTAGAATGAACATTGTCCCATTTGTCAACACAATGATGCTGTTGTCCCCCAGCTGAGCCCAACAGTG
ACCTGCAGGGGGTAAATGTTATTAGTGTAAAGATAATGATAGCCTGGCTGCCCGACTGGCTGTGAAAT
GAAAACCTGATCTCTTGTATTGTTCTTTCAGATGTAGAAGCCCTTTTGGACAGCCCCCAGGTTTCAGATGAT
GCAAAGCTTATTGATATATTTTATCCCGGAGATCAGCAGTCTGTGACATTTGGAATCAAGTCTAGAGTGG
GAATGGGTGGCATGGAAGCCAAGGTGAAAGCAGCCCTCTGGGCTTTGCAAGGTGGCACTTCTGTTGTTAT
TGCCAAATGGAACCCCAAGGTGTCTGGCAGCTCATCACAGACATTTGGAGGGGAAAGAAATGGTGGT
ACCTTCTTTTTCAGAAAGTAAAGCCTGCAGGCCCTACTGTTGAGCAGCAGGGAGAAATGGCGCATCTGGAG
GAAGGATGTTGGCCACCTTGAACCTGAGCAGAGAGCAGAAATTTCCATCATCTGGCTGATCTGTTGAC
GGACCAGCGTGATGAGATCCTGTTAGCCAACAAAAAGACTTGGAGGAGGCAGAGGGGAGACTTGCAGCT
CCTCTGTGAAACGTTTAAAGCCTCTCCACATCCAAATGAACAGCCTGGCCATCGGTCTGCGACAGATCG
CAGCCTCTCCAGGACAGCGTGGGACGTGTTTTGCGCCGACCCGAATCGCAAAAACTTGAACCTGGA
ACAAGTACTGTCCCAATTGGAGTTCTGCTGGTGTCTTTGAATCTCGTCTGACTGTCTACCCAGGTG
GCAGCTTTGGCTATCGCAAGTGGCAATGGCTTGTACTCAAAGGAGGGAAGGAGGCTGCACACAGCAACC
GGATTCTCCACCTCTGACCCAGGAGGCTCTCAATCCATGGAGTCAAGGAGGCCGTGCAACTGGTGAA
TACCAGAGAAGAAGTTGAAGATCTTGGCCCTAGACAAAATGATAGATCTGATCATTCCACGTGGCTCT
TCCCAGCTGGTACAGACATCCAGAAAGCTGCTAAGGGGATTCCAGTGTGGGGCACAGCGAAGGGATCT
GTCACATGTATGTGGATTCCGAGGCCAGTGTGATAAGGTCACCCAGGCTAGTACAGACTCTAAATGTGA
ATATCCAGCTGCCTGTAATGCTTTGGAGACTTTGTTAATCCACCCGGATCTGCTCAGGACACCAATTTT
GACCAGATCATTGATGCTGAGAGTGGAAACAGGTAAAAATTCATGCAGGCCCAAAATTTGCCTCTATC
TGACCTTCAGCCCTCCGAAGTGAAGTCACTCCGAAGTGAAGTATGGGGACCTGGAATTAATGATTGAAGT
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ACAGAGGACGAAAACACAGCGGAGTTCTTCTGCAGCACGTAGACAGTGCCTGTGTGTTCTGGAATGCCA
GCACTCGCTTTTCTGATGGTTACCGCTTTGGACTGGGAGCTGAAGTGGGAATCAGTACATCGAGAATCCA
CGCCCCGGGACCAGTAGGACTTGAGGACTGCTTACTACTAAGTGGCTGCTGCGAGGGAAGGACCAGCTG
GTCTCAGATTTTCAGAGCATGGAAGTTTAAAAATCTTCATGAGAACCTCCCTATTCCTCAGAGAAACA
CCAAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC210726 protein sequence
Red=Cloning site Green=Tags(s)

MLSQVYRCGFQPFNQHLLPWVKCTTVFRSHCIQPSVIRHVRSWSNIPFITVPLSRTHGKSF AHRSELKHA
KRIVVKLGSAVVTRGDECGALGRLASIVEQVSVLQNGREMMLVTS GAVAFGKQRLRHEILLSQSVRQA
LHSGQNQLKEMAI PVLEARACAAAAGQSGLMAL YEAMFTQYSICAAQILVTNLDFHDEQKRRNLNGLHEL
LRMNI VPIVNTND AVVPPAEPNSDLQGVNVISVKDNDSL AARLAVEMKTDLLIVLSDVEGLFDSPPGSDD
AKLIDIFYPGDQQSVTFGIKSRVGMGGMEAKVKAALWALQGGTSVVIANGTHPKVSGHVITDIVEGKKVG
TFFSEVKPAGPTVEQQGEMARSGGRMLATLEPEQRAEIIHHLADLLTDQRDEILLANKKDLEEAEGRLAA
PLLKRLSLSTSKLNSLAIGLRQIAASSQDSVGRVLRRTRIAKNLELEQVTVP IGVLLVIFESRPDCLPQV
AALAIASGNLLLLKGGKEAAHSNRILHLLTQEALSIHG VKEAVQLVNTREEVEDLCRLDKMIDL IIPRGS
SQLVRDIQKA AKGIPVMGHSEGI CHMYVDSEASVDKVTRLV RDSKCEYPAACNALETL IHRDLLRTPLF
DQIIDMLRVEQVKIHAGPKFASYLTFSPSEVKSLRTEYGDLELCIEVVDNVQDAIDHIHKYGS SHTDVIV
TEDENTAEFFLQHVD SACVFNASTRFSDGYRFG LGAEVGISTSR IHARGPVGLEGLLTTKWL LRGKDHV
VSDFSEHGSLKYLHENLPIQRNTN

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6692_c12.zip

Restriction Sites: Sgfl-MluI

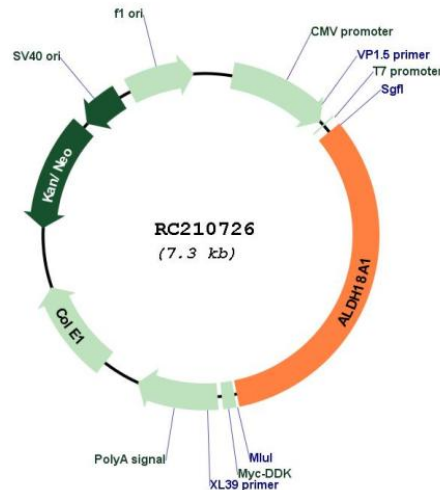
Cloning Scheme:

Cloning sites used for ORF Shutting:



* The last codon before the Stop codon of the ORF

Plasmid Map:



ACCN: NM_002860

ORF Size: 2385 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_002860.4](#)

RefSeq Size: 3470 bp

RefSeq ORF: 2388 bp

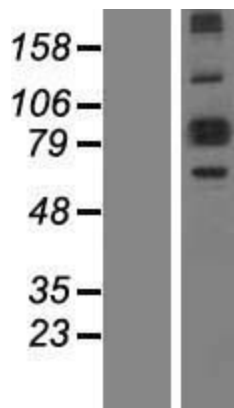
Locus ID: 5832

UniProt ID: [P54886](#)

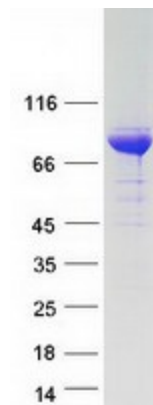
Cytogenetics: 10q24.1

Domains:	aakinase, aldedh
Protein Families:	Druggable Genome
Protein Pathways:	Arginine and proline metabolism, Metabolic pathways
MW:	87.3 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, hypoorithinemia, 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:



Western blot validation of overexpression lysate (Cat# [LY419053]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC210726 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ALDH18A1 protein (Cat# [TP310726]). The protein was produced from HEK293T cells transfected with ALDH18A1 cDNA clone (Cat# RC210726) using MegaTran 2.0 (Cat# [TT210002]).