

## Product datasheet for **RC207087**

### **ALDH6A1 (NM\_005589) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	ALDH6A1 (NM_005589) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ALDH6A1
Synonyms:	MMSADHA; MMSDH
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RC207087 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCGGCGCTATTGGCGGCGGCGCAGTGCAGCCCGGATCCTGCAGGTTTCTTCCAAGGTGAAATCCA  
 GTCCACCTGGTATTAGCATCTTCTTCTTCTTCTCAGTGCCAACTGTAAGACTTTCATTGGTGGGAA  
 ATTCGTTGAATCCAAAAGTGACAAATGGATCGATATCCACAACCCAGCCACCAATGAGGTCATTGGTCGG  
 GTCCTCAGGCCACCAAGGCAGAAATGGATGCAGCCATTGCTTCTGCAAACGTGCTTTTCTGCATGGG  
 CAGACACTTCAGTATAAGCCGCCAGCAGGTCTTGTCTCCGCTATCAACAACCTTATAAAGAAAATTGAA  
 AGAAATTGCCAAGTTAATCACATTGGAACAAGGGAAGACCCTAGCTGATGCTGAAGGAGATGATTTTGA  
 GGCCTTCAGTGGTTGAGCATGCCTGTAGTGTGACATCCCTCATGATGGGAGAGACCATGCCATCCATCA  
 CCAAAGACATGGACCTTTATTCTACCGTCTGCCTCTGGGAGTGTGTGCAGGCATTGCTCCATTCAATTT  
 TCCTGCCATGATCCCCCTTTGGATGTTTCCCATGGCCATGGTGTGTGAAATACCTTCTAATGAAACCA  
 TCTGAGCGAGTCCCTGGAGCAACTATGCTTCTTGCTAAGTTGCTCCAGGATTCGGTGCCCTGATGGAA  
 CATTAAACATCATCCATGGACAGCATGAAGCTGTAATTTTATTTGCGATCATCCGGACATCAAAGCAAT  
 CAGCTTTGTGGGATCCAACAAGGCAGGAGAGTATATCTTCGAGAGAGGATCAAGACATGGCAAGAGGGTT  
 CAAGCCAATATGGGAGCCAAGAACCATGGGGTAGTCATGCCAGATGCCAATAAGGAAAATACCCTGAACC  
 AGCTGGTTGGGGCAGCATTGGAGCTGCTGGTCAGCGTGCATGGCTCTTTCAACAGCAGTCCTTGTGGG  
 AGAAGCCAAGAAGTGGCTGCCAGAGCTGGTGGAGCATGCCAAAACCTGAGAGTCAATGCAGGAGATCAG  
 CCTGGAGCTGATCTTGGCCCTCTGATCACTCCCCAGGCCAAAGAGCGAGTCTGTAATCTGATTGATAGTG  
 GAACAAAGGAGGGAGCTTCCATCTTCTGATGGACGAAAAATTAAGTGAAGGCTATGAAAATGGCAA  
 CTTTGTGGACCAACCATCATCTCGAATGTCAAGCCAAATATGACCTGTTACAAAGAGGAGATTTTGGT  
 CCAGTCTTGTGGTTCTGGAGACAGAAACATTGGATGAAGCCATCCAGATTGTAATAACAAACCCATATG  
 GAAATGGAAGTGCATCTTACCACCAATGGAGCCACTGCTCGGAAATATGCCCACTTGGTGGATGTTGG  
 ACAGGTGGGAGTGAATGTCCCCATTCCAGTGCCTTTGCCAATGTTCTCATTACCCGGCTCTCGATCTCC  
 TTCAGGGGAGACCAATTTCTATGGCAAACAGGGCATCCAATTCTACACTCAGTTAAAGACCATTACTT  
 CTCAGTGGAAAGAAGAAGATGCTACTCTTCTCACCTGCTGTTGTCATGCCTACCATGGGCCGT

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC207087 protein sequence  
 Red=Cloning site Green=Tags(s)

MAALLAAAVRARILQVSSKVKSSPTWYSASSFSSSVPTVKLFIGGKFVESKSDKWIDIHNPATNEVIGR  
 VPQATKAEMDAAIASCKRAFPWADTSVLSRQQVLLRYQLIKENLKEIAKLITLEQGKTLADAEGDVFR  
 GLQVVEHACSVTSLMMGETMPSITKMDLYSYRLPLGVCAGIAPFNFPAMIPLWMFPMAMVCGNTFLMKP  
 SERVPGATMLLAKLLQDSGAPDGLNIIHGQHEAVNFI CDHPDIKAISFVGSNKAGEYIFERGSRHGKRV  
 QANMGAKNHGVVMPDANKENTLNQLVGAAFGAAGQRCMALSTAVLVGEAKKWLPELVEHAKNLRVNA GDQ  
 PGADLGPLITPQAKERVCNLIDSGTKEGASILLDGRKIKVKGYENGNFVGPTIISNVKPNMTCYKEEIFG  
 PVLVVLETETLDEAIQIVNNNPYNGTAIFTTNGATARKY AHLVDVGQVGVNVPVPLPMFSFTGSRSS  
 FRGDTNFYGKQGIQFYTLKTIITSQWKEEDATLSSPAVVMPTMGR

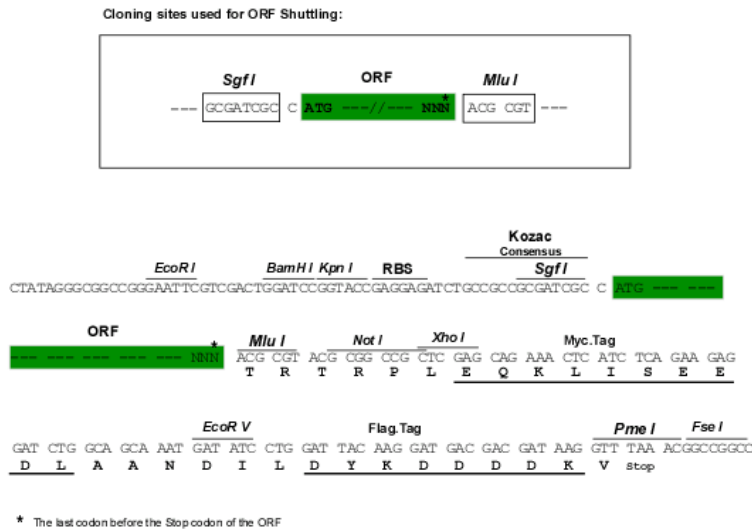
**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6136\\_h03.zip](https://cdn.origene.com/chromatograms/mk6136_h03.zip)

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**

**ACCN:**

NM\_005589

**ORF Size:**

1605 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](mailto: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:**

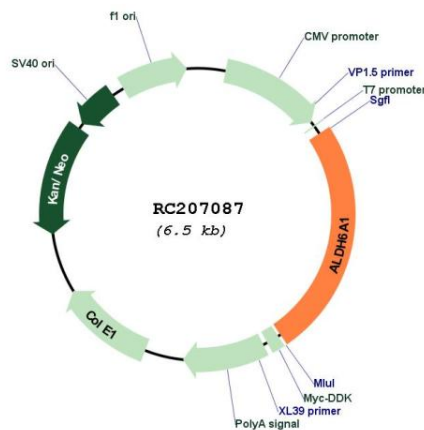
The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

**Reconstitution Method:**

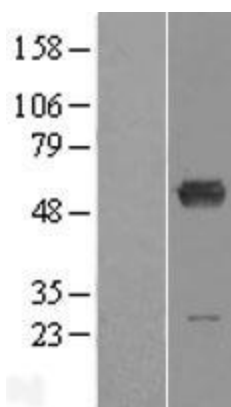
1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

<b>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<a href="#">NM_005589.4</a>
<b>RefSeq Size:</b>	4701 bp
<b>RefSeq ORF:</b>	1608 bp
<b>Locus ID:</b>	4329
<b>UniProt ID:</b>	<a href="#">Q02252</a>
<b>Cytogenetics:</b>	14q24.3
<b>Domains:</b>	aldedh
<b>Protein Families:</b>	Druggable Genome, Transmembrane
<b>Protein Pathways:</b>	Inositol phosphate metabolism, Metabolic pathways, Propanoate metabolism, Valine, leucine and isoleucine degradation
<b>MW:</b>	57.8 kDa
<b>Gene Summary:</b>	This gene encodes a member of the aldehyde dehydrogenase protein family. The encoded protein is a mitochondrial methylmalonate semialdehyde dehydrogenase that plays a role in the valine and pyrimidine catabolic pathways. This protein catalyzes the irreversible oxidative decarboxylation of malonate and methylmalonate semialdehydes to acetyl- and propionyl-CoA. Methylmalonate semialdehyde dehydrogenase deficiency is characterized by elevated beta-alanine, 3-hydroxypropionic acid, and both isomers of 3-amino and 3-hydroxyisobutyric acids in urine organic acids. Alternate splicing results in multiple transcript variants. [provided by RefSeq, Jun 2013]

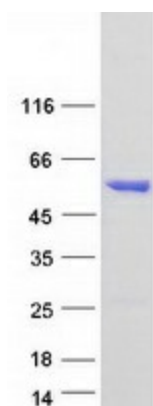
### Product images:



Circular map for RC207087



Western blot validation of overexpression lysate (Cat# [LY401715]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC207087 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ALDH6A1 protein (Cat# [TP307087]). The protein was produced from HEK293T cells transfected with ALDH6A1 cDNA clone (Cat# RC207087) using MegaTran 2.0 (Cat# [TT210002]).