

Product datasheet for **RG207087**

ALDH6A1 (NM_005589) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ALDH6A1 (NM_005589) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	ALDH6A1
Synonyms:	MMSADHA; MMSDH
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG207087 representing NM_005589
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCGGCGCTATTGGCGGCGGCGCAGTGCAGCCCGGATCCTGCAGGTTTCTTCCAAGGTGAAATCCA
 GTCCACCTGGTATTAGCATCTTCTTCTTCTTCTCAGTGCCAACTGTAAGACTTTCATTGGTGGGAA
 ATTCGTTGAATCCAAAAGTGACAAATGGATCGATATCCACAACCCAGCCACCAATGAGGTCATTGGTCGG
 GTCCCTCAGGCCACCAAGGCAGAAATGGATGCAGCCATTGCTTCTCGAAACGTGCTTTTCTGCATGGG
 CAGACACTTCAGTATTAAGCCGCCAGCAGGTCTTGTCTCCGCTATCAACAACCTTATAAAGAAAATTGAA
 AGAAATTGCCAAGTTAATCACATTGGAACAAGGGAAGACCCTAGCTGATGCTGAAGGAGATGATTTTGA
 GGCCTTCAGTGGTTGAGCATGCCTGTAGTGTGACATCCCTCATGATGGGAGAGACCATGCCATCCATCA
 CCAAAGACATGGACCTTTATTCTACCGTCTGCCTCTGGGAGTGTGTGCAGGCATTGCTCCATTCAATTT
 TCTGCCATGATCCCCCTTTGGATGTTTCCCATGGCCATGGTGTGTGAAATACCTTCTAATGAAACCA
 TCTGAGCGAGTCCCTGGAGCAACTATGCTTCTGTAGTTGCTCCAGGATTCTGGTGCCCTGATGGAA
 CATTAAACATCATCCATGGACAGCATGAAGCTGTAATTTTATTTGCGATCATCCGGACATCAAAGCAAT
 CAGCTTTGTGGGATCCAACAAGGCAGGAGATATATCTTCGAGAGAGGATCAAGACATGGCAAGAGGGTT
 CAAGCCAATATGGGAGCCAAGAACCATGGGGTAGTCATGCCAGATGCCAATAAGGAAAATACCCTGAACC
 AGCTGGTTGGGGCAGCATTGGAGCTGTGGTGCAGCGTGCATGGCTCTTTCAACAGCAGTCCTGTGGG
 AGAAGCCAAGAAGTGGCTGCCAGAGCTGGTGGAGCATGCCAAAACCTGAGAGTCAATGCAGGAGATCAG
 CCTGGAGCTGATCTTGGCCCTCTGATCACTCCCCAGGCCAAAGAGCGAGTCTGTAATCTGATTGATAGT
 GAACAAAGGAGGGAGCTTCCATCTTCTGATGGACGAAAAATTAAGTGAAGGCTATGAAAATGGCAA
 CTTTGTGGACCAACCATCATCTCGAATGTCAAGCCAAAATATGACCTGTTACAAAGAGGAGATTTTGGT
 CCAGTCTTGTGGTTCTGGAGACAGAAACATTGGATGAAGCCATCCAGATTGTAATAACAAACCCATATG
 GAAATGGAAGTGCATCTTACCACCAATGGAGCCACTGCTCGGAAATATGCCCACTTGGTGGATGTTGG
 ACAGGTGGGAGTGAATGTCCCCATTCCAGTGCCTTTGCCAATGTTCTCATTACCCGGCTCTCGATCTCC
 TTCAGGGGAGACCAATTTCTATGGCAAACAGGGCATCCAATTCTACACTCAGTTAAAGACCATTACTT
 CTCAGTGGAAAGAAGAAGATGCTACTCTTCTCACCTGCTGTTGTCATGCCTACCATGGGCCGT

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG207087 representing NM_005589
 Red=Cloning site Green=Tags(s)

MAALLAAAVRARILQVSSKVKSSPTWYSASSFSSSVPTVKLFIGGKFVESKSDKWIDIHNPATNEVIGR
 VPQATKAEMDAAIASCKRAFPWADTSVLSRQQVLLRYQQLIKENLKEIAKLITLEQGKTLADAEGDVFR
 GLQVVEHACSVTSLMMGETMPSITKMDLYSYRLPLGVCAGIAPFNFPAMIPLWMFPMAMVCGNTFLMKP
 SERVPGATMLLAKLLQDSGAPDGLNIIHGQHEAVNFICDHPDIKAISFVGSNKAGEYIFERGSRHGKRV
 QANMGAKNHGVVMPDANKENTLNQLVGAAGQRCMALSTAVLVGEAKKWLPELVEHAKNLRVNAAGDQ
 PGADLGPLITPQAKERVCNLIDSGTKEGASILLDRKIKVKYENGNFVGPTIISNVKPNMTCYKEEIFG
 PVLVVLETETLDEAIQIVNNPNPYNGTAIFTTNGATARKYAHLDVVGQVGNVPIPVPLPMFSFTGSRSS
 FRGDTNFYQKQIQFYTLKTIISQWKEEDATLSSPAVVMPTMGR

TRTRPLE – GFP Tag – V

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 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).

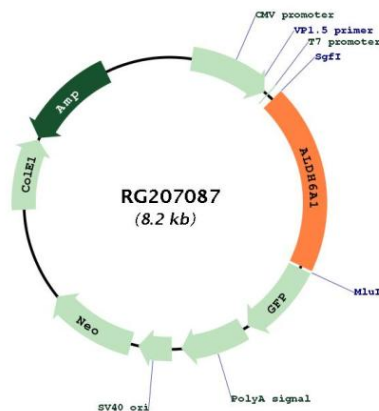
Reconstitution Method:

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_005589.4](#)

RefSeq Size:	2183 bp
RefSeq ORF:	1608 bp
Locus ID:	4329
UniProt ID:	Q02252
Cytogenetics:	14q24.3
Domains:	aldedh
Protein Families:	Druggable Genome, Transmembrane
Protein Pathways:	Inositol phosphate metabolism, Metabolic pathways, Propanoate metabolism, Valine, leucine and isoleucine degradation
Gene Summary:	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 RG207087