

Product datasheet for **SC116671**

ALDH6A1 (NM_005589) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ALDH6A1 (NM_005589) Human Untagged Clone
Tag:	Tag Free
Symbol:	ALDH6A1
Synonyms:	MMSADHA; MMSDH
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >NCBI ORF sequence for NM_005589, the custom clone sequence may differ by one or more nucleotides

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ATGGCGGCGCTATTGGCGGCGGCGGCGAGTGCAGCCCGGATCCTGCAGGTTTCTTCCAAGGTGAAATCCA
GTCCCACCTGGTATTCAGCATCTTCTTCTTCTTTCAGTGCCAAGTGTAAAGCTCTTCATTGGTGGGAA
ATTCGTTGAATCCAAAAGTGACAAATGGATCGATATCCACAACCCAGCCACCAATGAGGTCATTGGTGG
GTCCCTCAGGCCACCAAGGCAGAAATGGATGCAGCCATTGCTTCTGCAACGTGCTTTTCTGCATGGG
CAGACACTTCAGTATTAAGCCGCCAGCAGGTCTTGCTCCGCTATCAACAATTATTAAGAAAACTTGAA
AGAAATTGCCAAGTTAATCACATTGGAACAAGGGAAGACCCTAGCTGATGCTGAAGGAGATGATTTTCA
GGCCTTCAGGTGGTTGAGCATGCCTGTAGTGTGACATCCCTCATGATGGGAGAGACCATGCCATCCATCA
CCAAAGACATGGACCTTTATTCTACCGTCTGCCTCTGGGAGTGTGTGCAGGCATTGCTCCATTCAATTT
TCCTGCCATGATCCCCCTTTGGATGTTTCCCATGGCCATGGTGTGTGAAATACCTTCTAATGAAACCA
TCTGAGCGAGTCCCTGGAGCAACTATGCTTCTTGCTAAGTTGCTCCAGGATTCTGGTGCCCTGATGGAA
CATTAAACATCATCCATGGACAGCATGAAGCTGTAAATTTTATTTGCGATCATCCGGACATCAAAGCAAT
CAGCTTTGTGGGATCCAACAAGGCAGGAGAGTATATCTTCGAGAGAGGATCAAGACATGGCAAGAGGGTT
CAAGCCAATATGGGAGCCAAGAACCATGGGGTAGTCATGCCAGATGCCAATAAGGAAAAATACCCTGAACC
AGCTGGTTGGGCGAGCATTGGAGCTGCTGGTCAAGCGCTGCATGGCTCTTCAACAGCAGTCTTGTGGG
AGAAGCCAAGAAGTGGCTGCCAGAGCTGGTGGAGCATGCCAAAAACCTGAGAGTCAATGCAGGAGATCAG
CCTGGAGCTGATCTTGGCCCTCTGATCACTCCCGAGCCAAAGAGCGAGTCTGTAATCTGATTGATAGTG
GAACAAAGGAGGGAGCTTCCATCCTTCTTGATGGACGAAAAATTAAGTGAAAGGCTATGAAATGGCAA
CTTTGTTGGACCAACCATCATCTCGAATGTCAAGCCAAATATGACCTGTTACAAAGAGGAGATTTTGGT
CCAGTCTTGTGGTTCTGGAGACAGAAACATTGGATGAAGCCATCCAGATTGTAATAACCAACCCATATG
GAAATGGAAGTGCATCTTACCACCAATGGAGCCACTGCTCGGAAATATGCCCACTTGGTGGATGTTGG
ACAGGTGGGAGTGAATGTCCCCATTCCAGTGCCTTTGCCAATGTTCTCATTACCAGGCTCTCGATCTCC
TTCAGGGGAGACACCAATTTCTATGGCAACAGGGCATCCAATTTACTACTCAGTTAAAGACCATTACTT
CTCAGTGGAAAGAAGAAGATGCTACTCTTCTCACCTGCTGTTGTCATGCCTACCATGGGCCGTTAG
    
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5' Read Nucleotide Sequence:

>OriGene 5' read for NM_005589 unedited

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AGGATTTTGAATACGACTCACTATAGGGCGGCCGCGACTTCGGCACGAGGCCTCGTGCC
GAATTCGGCACGAGGCTAGGGCGGCCGAGAGCCATGGCGGCGCTATTGGCGGCGGCGGCA
GTGCGAGCCCGGATCCTGCAGGTTTCTTCCAAGGTGAAATCCAGTCCCACCTGGTATTCA
GCATCTTCTTCTTCTTTCAGTGCCAAGTGTAAAGCTCTTCATTGGTGGGAAATTCGTT
GAATCCAAAAGTGACAAATGGATCGATATCCACAACCCAGCCACCAATGAGGTCATTGGT
CGGGTCCCTCAGGCCACCAAGGCAGAAATGGATGCAGCCATTGCTTCTGCAACGTGCT
TTTCTGCATGGGCAGACACTTCAGTATTAAGCCGCCAGCAGGTTGCTCCGCTATCAA
CAACTTATTAAGAAAACTTGAAGAAATGCCAAGTTAATCACATTGGAACAAGGGAAG
ACCCTAGCTGATGCTGAAGGAGATGATTTTCGAGGCCCTCAGGTGGTTGAGCATGCCTGT
AGTGTGACATCCCTCATGATGGGAGAGACCATGCCATCCATCACCAAGACATGGACCTT
TATTCCTACCGTCTGCCTCTGGGAGTGTGTGCAGGCATTGCTCCATTCAATTTTCTGCC
ATGATCCCCCTTTGGATGTTTCCCATGGCCATGGTGTGTGAAATACCTTCTAATGAAA
CCATCTGAGCGAGTCCCTGGAGCAACTATGCTTCTTGCTAAGTTGCTCCACGATTCTGGT
GCCCTGATGGAACATTANACATCATCCATGGACAGCATGAAGCTGTAAATTTTATTTG
CGATCATCCGGACATCAAAGCAATCAGCTTTGTTGGGATCCAACAGGCAGGAGATATAT
CTTCGACAGAGATCAAGACATGCAGGAGGGTCAAGCCATATGGGAGCCAGACCATGGGGT
AA
    
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3' Read Nucleotide Sequence:	>OriGene 3' read for NM_005589 unedited CGGCCGCAATCTAGGATCGAGTTTTTTTTTTTTTTTTTCTCTTTAAAAGTTTTTAATTT ATAATTTGTTATTCATAATTAGTACAATGTAGAATCTGAGAAATTTCAAATGAAGCCACA TTAGAACAAAAAGAAAATACTGACTTTTTAGCCGCGATCATGAATATAACTGATGAGT TTTTTTCATCTAAGAAAATAAGAACTCTGAGCAGCAAATAGTTGGCCAGATGAGTTGTTT CTAATTAGAGCATCACAGTTCTGATTAGTGTGTTTTTTTAGAAGTGATTTCCCTTAAATA TAAGAAAAATGTTAGGAATCTCTGTGACTACATTTAATCCACTTGGAATATAGACAATA ATGACCTTTTATTTAACCAGCCTATAGTTGTTGGATTGATTAATATCACTACCAGGG CCAGGTGCGGTGTTTCATTTTCTTACATACACTGGCTTTTCTCCCTTCAAATCATCAG AAAATGGGATAATTTTTAGAAATCAGGTTTAAGCACTACTTTCAGATAAGCATTTCATAG TTACAACAGTTACCTCAAATAGAAGTATGAAGAGCAAGTGAGAAATCTGGTTTCATTGT TACACTAGGCAGTTCCTATAGAACTTTCAGGGGTTAATAGTCCTGNAGAAGATTTTA GTTACAATGTATTCCAATCCCATCGATCTGATCTGAGCAAAGCTGACAAATGAAGCTGGT CAAAAATAAGGGAGATTACTCAGGATGGAGTCAGTCTTAAACAACCTTGTCTAACGGCC ATGGTAGGCATGACAACAGCAGGTGAGGGAAGAGTAGCATCTTCTTCTTNCAGTGAAG TAATGGTCTTCACTGAGTTANAATTGGAGCCCTGTTTGCCTANAATGTGTCTCCCTGAA GAGATCGGAGCCGTGATGAAAACCTGCAAGGCCTGGATGGACATTACTCACTGTACAT CCCAGGGG
Restriction Sites:	NotI-NotI
ACCN:	NM_005589
Insert Size:	2500 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
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:	<ol style="list-style-type: none"> 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_005589.2 , NP_005580.1

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:	<p>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]</p> <p>Transcript Variant: This variant (1) encodes the longest isoform (1). Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.</p>