

## Product datasheet for **RC217303**

### ALDH5A1 (NM\_170740) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	ALDH5A1 (NM_170740) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ALDH5A1
Synonyms:	SSADH; SSDH
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RC217303 representing NM\_170740  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCGACCTGCATTTGGCTGCGGAGCTGTGGGGCCCGCGCCTCGGGTGCAGCTTTCAGGCTGCCGCC  
 TCCGCCCCGCGCGCGCGCCTGGTCCCTGCCTCCGGCCTGCGCCCGCCCGGCCAGCTCCGCTGCTA  
 CGCTGGGCGCCTGGCGGGCCTCTCTGCGCGCTGCTGCGCACCGACAGCTTCGTGGGCGGCCGCTGGCTC  
 CCGGCCGCGCCACCTTCCCCGTGCAAGACCCGGCCAGCGGCGCCGCTCTGGGCATGGTAGCCGACTGCG  
 GGGTGCAGAGAGGCCCGCGCCGCTGCGCGCTGCCTACGAGGCTTTCGCCGCTGGAGGGAGGTCTCCGC  
 CAAGGAGAGGAGTTCATTACTTCGGAAGTGGTACAATTTAATGATACAAAATAAGGATGACCTTGCCAGA  
 ATAATCACAGCTGAAAGTGAAAGCCACTGAAGGAGGCACATGGAGAAATTCCTATTCCGCTTTTTCC  
 TAGAGTGGTTCCTGAGGAAGCCCGCCTGTTACGGAGACATTACACACCCCGCAAAGGACAGGGC  
 GGCCTGGTCTCAAGCAGCCCATAGGCGTGGCTGCAGTCATCACCCGTGGAATTTCCCAGTGCCATG  
 ATCACCCGGAAGGTGGGGCCCGCCTGGCAGCCGCTGTACTGTCGTGGTGAAGCCTGCCAAGACACGC  
 CCTTCTCCGCCCTGGCCCTGGCTGAGGTAATCAGGGATTTCTTCTTGATTTGGATCCATTGTTGCTTGC  
 AAGCCAGGCTGGGATTCCTTCAGGTGTACAATGTTATCCCTGTTCTCGAAAGATGCCAAGGAAGTA  
 GGGGAGGCAATTTGACTGATCCTCTGGTGTCCAAAATTTCTTTACTGGTTCAACAACACAGGAAAGA  
 TCCTGTTGCACCACGCAGCAAACCTGTGAAAAGGGTCTCTATGGAGCTGGGCGGCCTTGCTCCATTTAT  
 AGTATTTGACAGTGCCACGTGGACCAGGCTGTAGCAGGGCCATGGCATCTAAATTTAGGAACACTGGA  
 CAGACTTGTGTTGCTCAAACCAATTCCTGGTCAAAGGGGCATCCATGATGCCTTTGAAAAGCATTCCG  
 CCGAGGCCATGAAGAAGAACCTGCGCGTAGGTAATGGATTTGAGGAAGGAACTACTCAGGGCCCAATTAAT  
 TAATGAAAAGCGGTAGAAAAGGTGGAGAAACAGGTGAATGATGCCGTTTCTAAAGGTGCCACCGTTGTG  
 ACAGGTGGAACCGACCAACTTGAAAAAATTTCTTTGAGCCTACCCTGCTGTGCAATGCACCCAGG  
 ACATGCTGTGCACTCATGAAGAGACTTTCCGGCCTCTGGCACCAGTTATCAAGTTCGATACAGAGGAGGA  
 GGCTATAGCAATCGCTAACGCAGCTGATGTTGGGTTAGCAGGTTATTTTTACTCTCAAGACCCAGCCAG  
 ATCTGGAGAGTGGCAGAGCAGCTGGAAGTGGGCATGGTTGGCGTCAACGAAGGATTAATTTCTCTGTGG  
 AGTGCCCTTTTGGTGGAGTGAAGCAGTCCGGCCTTGGGCGAGAGGGGTCCAAGTATGGCATTGATGAGTA  
 TCTGGAACCAAGTATGTGTGTACGGGGCTTG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC217303 representing NM\_170740  
 Red=Cloning site Green=Tags(s)

MATCIWLRSCGARRLGSTFPGCRLRPRAGGLVPASGPAPGPAQLRCYAGRLAGLSAALLRTDSFVGGRWL  
 PAAATFPVQDPASGAALGMVADCGVREARAAVRAAYEAFCRWREVSARKERSLLRKWYNLMIQNKDDLAR  
 IITAESGKPLKEAHGEILYSAFFLEWFSEEARRVYVDIIHTPAKDRRALVLKQPIGVAAVITPWNFPMSAM  
 ITRKVGAAALAAGCTVVVKPAEDTFFSALALAEVNQGFLLDLPLLLASQAGIPSGVYVNIPCSARNAKEV  
 GEAICTDPLVSKISFTGSTTTGKILLHHAANSVKRVSMELGGLAPFIVFDSANVDQAVAGAMASKFRNTG  
 QTCVCSNQFLVQRGIHDAFVKAF AEAMKKNLRVGNFEEGTTQGPLINEKAVEKVEKQVNDVAVSKGATVV  
 TGGKRHLQKGNFPEPTLLCNVTQDMLCTHEETFGLAPVIKFDTEEEAIAIANAADVGLAGYFYSDPAQ  
 IWRVAEQLEVMVGVNEGLISSVECPFVGVKQSGLGREGSKYIDEYLELKYVCYGG

**TR**TRPLEQKLI SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk8018\\_a01.zip](https://cdn.origene.com/chromatograms/mk8018_a01.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_170740

**ORF Size:** 1644 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\\_170740.1](#), [NP\\_733936.1](#)

**RefSeq Size:** 5170 bp

**RefSeq ORF:** 1647 bp

**Locus ID:** 7915

**UniProt ID:** [P51649](#)

**Cytogenetics:** 6p22.3

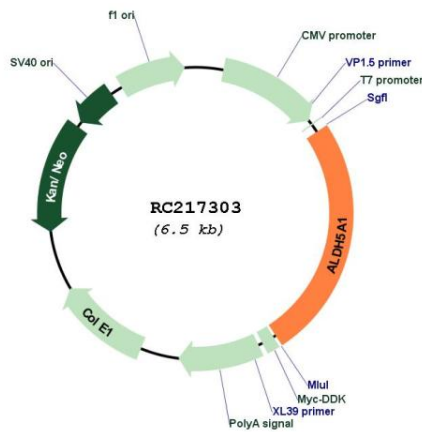
**Protein Families:** Druggable Genome

**Protein Pathways:** Alanine, aspartate and glutamate metabolism, Butanoate metabolism, Metabolic pathways

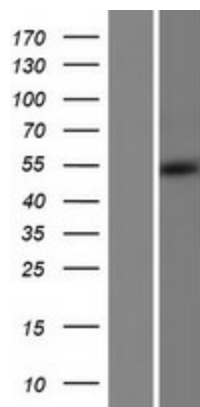
**MW:** 53.7 kDa

**Gene Summary:** This protein belongs to the aldehyde dehydrogenase family of proteins. This gene encodes a mitochondrial NAD(+)-dependent succinic semialdehyde dehydrogenase. A deficiency of this enzyme, known as 4-hydroxybutyricaciduria, is a rare inborn error in the metabolism of the neurotransmitter 4-aminobutyric acid (GABA). In response to the defect, physiologic fluids from patients accumulate GHB, a compound with numerous neuromodulatory properties. Two transcript variants encoding distinct isoforms have been identified for this gene. [provided by RefSeq, Jul 2008]

**Product images:**



Circular map for RC217303



Western blot validation of overexpression lysate (Cat# [LY406860]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC217303 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).