

Product datasheet for **RC228933**

ALDH4A1 (NM_001161504) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ALDH4A1 (NM_001161504) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ALDH4A1
Synonyms:	ALDH4; P5CD; P5CDh
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC228933 representing NM_001161504
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGAAGCCATCCCATGCGTGGTGGGGATGAGGAGGTGGACGTCGGACGTGCAGTACCAAGTGTCCG
 CTTTTAACCATGGACATAAGGTGGCCAAGTCTGTATGCAGACAAGAGCCTGCTCAACAAGCCATTGA
 GGCTGCCCTGGCTGCCCGAAAGAGTGGGACCTGAAGCCTATTGCAGACCGGGCCAGATCTTCCTGAAG
 GCGGCAGACATGCTGAGTGGCCGCGCAGGGCTGAGATCCTCGCCAAGACCATGGTGGGACAGGGTAAGA
 CCGTGATCCAAGCGGAGATTGACGCTGCAGCGAACTCATCGACTTCTCCGGTTCAATGCCAAGTATGC
 GGTGGAGCTGGAGGGCAGCAGCCATCAGCGTCCCCGAGCACAACAGCACGGTGTACCGGGTCTG
 GAGGGTTCGTGGCGCCATCTCGCCCTTAACCTCACTGCAATCGCGGCAACCTGGCGGGGACCCGG
 CCCTGATGGGCAACGTGGTCTATGGAAGCCAGTGACACTGCCATGCTGGCCAGCTATGCTGTCTACCG
 CATCCTTCGGGAGGCTGGCTGCCCCCAACATCATCCAGTTTGTCCAGCTGATGGCCCTATTTGGG
 GACTGTCAACAGCTCAGAGCACCTCTGTGGCATCAACTTACAGGCAGTGTGCCACCTTCAAACACC
 TGTGGAAGCAGGTGGCCAGAACCTGGACCGGTTCCACACCTTCCACGCCTGGCTGGAGAGTGGCGCG
 AAGAAGTTCACCTTCGTGCACCGCTCGGCCGACGTGGAGAGCGTGGTGGAGCGGGACCCTCCGCTCAGCC
 TTCGAGTACGGTGGCCAGAAGTGTTCGCGTCTCGCGTCTACGTGCCGCACTCGCTGTGGCCGAGCA
 TCAAAGGGCGGCTGTGGAGGAGCACAGTCGGATCAAAGTGGGCGACCCTGCAGAGGATTTTGGGACCTT
 CTTCTCGAGTGATTGATGCCAAGTCTTTGCCCGTATCAAGAAGTGGTGGAGCACGCACGCTCCTCA
 CCCAGCCTCACCATCCTGGCCGGGGCAAGTGTGATGACTCCGTGGGCTACTTTGGAGCCCTGCATCG
 TGGAGAGCAAGGACCCTCAGGAGCCCATCATGAAGGAGGAGATCTTCGGGCTGTACTGTGTGTACGT
 CTACCCGGATGACAAGTACAAGGAGACGCTGCAGCTGGTTGACAGCACACCAGCTATGGCCTCACGGGG
 GCAGTGTTCTCCAGGATAAGGACGTCGTGACAGGAGCCACAAAGGTGCTGAGGAATGCTGCCGGCAACT
 TCTACATCAACGACAAGTCCACTGGCTCGATAGTGGCCAGCAGCCCTTTGGGGGGCCGAGCCTCTGG
 AACCAATGACAAGCCAGGGGGCCACACTACATCCTGCGCTGGACGTCGCCGAGGTCATCAAGGAGACA
 CATAAGCCCTGGGGACTGGAGCTACGCGTACATGCAG

AG**GCGACCG**ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC228933 representing NM_001161504
 Red=Cloning site Green=Tags(s)

MEAI PCVVGDEEVWTS DVQYQVSPFNHGHK VAKFCYADK SLLNKAIEAALAARKEWDLKPIADRAQIFLK
 AADMLSGPRRAEILAKTMVGQKTVIQAEIDAAAE LIDFFRFNAKYAVELEGQQPI SVPPSTNSTVYRGL
 EGFVAAISPFNFTAIGGNLAGAPALMGNVVLWKPSDTAMLASYAVYRILREAGLPPNIIQFVPADGPLFG
 DTVTSS EHL CGINFTGSVPTFKHLWKQVAQN LDRFHTFPRLAGECGGNFHFVHRSADVESVVSGLR SA
 FEYGGQKCSACSRLYVPHSLWPQIKGRLL EEHSRIKVGDP AEDFGTFFSAVIDAKSFARIKKWLEHARSS
 PSLTILAGGKCDDSVGYFVEPCIVESKDPQEPIMKEEIFGPVLSVYVYPDDKYKETLQLVDSTTSYGLTG
 AVFSQDKDVVQEATKVL RNAAGNFYINDKSTGSI VQQPFGGARASGTNDKPGGPHYILRWTSPQVIKET
 HKPLGDWSYAYMQ

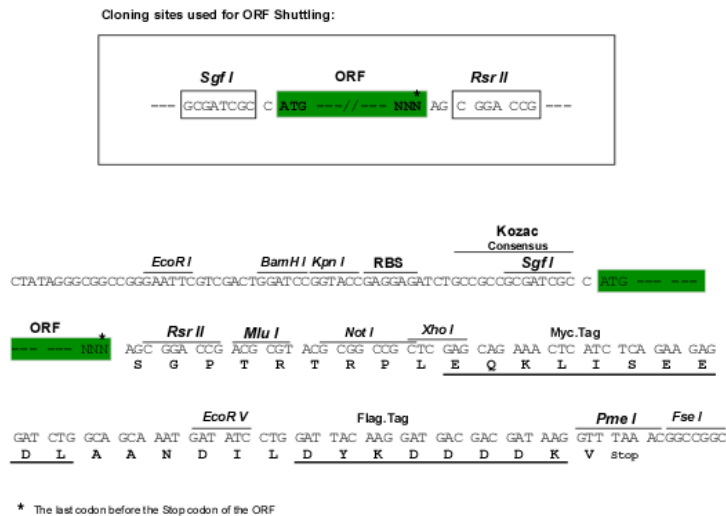
SGP**TRTRPLEQKLI SEEDLAANDILDYKDDDDK**V

Chromatograms:

https://cdn.origene.com/chromatograms/ja3417_c01.zip

Restriction Sites:

Sgfl-RsrII

Cloning Scheme:


ACCN: NM_001161504

ORF Size: 1509 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_001161504.1](#), [NP_001154976.1](#)

RefSeq Size: 3259 bp

RefSeq ORF: 1512 bp

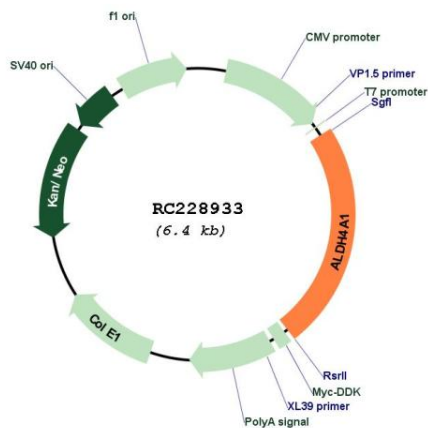
Locus ID: 8659

UniProt ID: [P30038](#)

Cytogenetics: 1p36.13

Protein Families:	Druggable Genome
Protein Pathways:	Alanine, aspartate and glutamate metabolism, Arginine and proline metabolism, Metabolic pathways
MW:	55.1 kDa
Gene Summary:	This protein belongs to the aldehyde dehydrogenase family of proteins. This enzyme is a mitochondrial matrix NAD-dependent dehydrogenase which catalyzes the second step of the proline degradation pathway, converting pyrroline-5-carboxylate to glutamate. Deficiency of this enzyme is associated with type II hyperprolinemia, an autosomal recessive disorder characterized by accumulation of delta-1-pyrroline-5-carboxylate (P5C) and proline. Alternatively spliced transcript variants encoding different isoforms have been identified for this gene. [provided by RefSeq, Jun 2009]

Product images:



Circular map for RC228933