

Product datasheet for **RC232891**

ALDH7A1 (NM_001201377) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ALDH7A1 (NM_001201377) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ALDH7A1
Synonyms:	ATQ1; EPD; PDE
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide Sequence:

>RC232891 representing NM_001201377
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGTCCACTCTCCTCATCAATCAGCCCCAGTATGCGTGGCTGAAAGAGCTGGGGCTCCGCGAGGAAAACG
 AGGGCGTGATAATGGAAGCTGGGGAGGCCGGGAGAGGTTATTACGACCTATTGCCTGCTAACACGA
 GCCAATAGCAAGAGTCCGACAGGCCAGTGTGGCAGACTATGAAGAACTGTAAAGAAAGCAAGAGAGCA
 TGGAAAATCTGGGCAGATATTCCTGCTCCAAAACGAGGAGAAATAGTAAGACAGATTGGCGATGCCTTGC
 GGGAGAAGATCCAAGTACTAGGAAGCTTGGTGTCTTTGGAGATGGGGAAAATCTTAGTGAAGGTGTGGG
 TGAAGTTCAGGAGTATGTGGATATCTGTGACTATGCTGTTGGTTTATCAAGGATGATTGGAGGACCTATC
 TTGCCCTTCTGAAAGATCTGGCCATGCAGTATTGAGCAGTGAATCCCGTAGGCCTGGTTGGAATCATCA
 CGGCATTCAATTTCCCTGTGGCAGTGTATGTTGGAACAACGCCATCGCCATGATCTGTGAAATGTCTG
 CCTCTGGAAGGAGCTCCAACCACTTCCCTCATTAGTGTGGCTGTCAAAAGATAATAGCCAAGGTTCTG
 GAGGACAACAAGCTGCCTGGTGCAATTTGTTCCCTGACTTGTGGTGGAGCAGATATTGGCACAGCAATGG
 CCAAAGATGAACGAGTGAACCTGCTGCTTCACTGGGAGCACTCAGGTGGGAAAACAGGTGGGCCCTGAT
 GGTGCAGGAGAGGTTTGGGAGAAGTCTGTTGGAAGTGGAGGAAACAATGCCATTATGCCTTTGAAGAT
 GCAGACCTCAGCTTAGTTGTTCCATCAGCTCTCTTCGCTGCTGTGGGAACAGCTGGCCAGAGGTGTACCA
 CTGCGAGGCGACTGTTTATACATGAAAGCATCCATGATGAGGTTGTAAACAGACTTAAAAAGGCCTATGC
 ACAGATCCGAGTTGGGAACCCATGGGACCCTAATGTTCTCTATGGGCCACTCCACACCAAGCAGGCAGTG
 AGCATGTTTCTTGAGCAGTGAAGAAGCAAAGAAAGAGTGGCACAGTGGTCTATGGGGCAAGGTTA
 TGGATCGCCCTGGAAATTATGTAGAACCAGCAATTGTGACAGGCTTGGCCACGATGCGTCCATGCACA
 CACAGAGACTTTTGTCTCCGATTCTATGTCTTTAAATCAAGAATGAAGAAGAGGCTTTTGCATGGAAT
 AATGAAGTAAAACAGGGACTTCAAGTAGCATCTTACCAGATCTGGGCAAGATCTTTCGCTGGCTTG
 GACCTAAAGGATCAGACTGTGGCATTGAAATGTCAACATTCCAACAAGTGGGGCTGAGATTGGAGGTGC
 CTTTGGAGGAGAAAAGCACACTGGTGGTGGCAGGGAGTCTGGCAGTGTGCCTGGAACAGTACATGAGA
 AGGTCTACTTGTACTATCAACTACAGTAAAGACCTTCTCTGGCCCAAGGAATCAAGTTTCAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC232891 representing NM_001201377
 Red=Cloning site Green=Tags(s)

MSTLLINQPQYAWLKELGLREENEGVYNGSWGGRGEVITTYCPANNEPIARVRQASVADYEETVKKAREA
 WKIWADIPAPKRGEIVRQIGDALREKIQVLGSLVLSLEMGKILVEGVGEVQEYVDICDYAVGLSRMIGGPI
 LPSERSGHALIEQWNPVGLVGIITAFNFPVAVYGNNAIAMIICGNVCLWKGAPTTSLISVAVTKIIAKVL
 EDNKLPGAICSLTCGGADIGTAMAKDERVNLLSFTGSTQVGKQVGLMVQERFGRSLELGGNNAIIAFED
 ADLSLVVPSALFAAVGTAGQRCTTARRLFIHESIHDDEVNRLKAYAQIRVGNPWPDPNVLYGPLHTKQAV
 SMFLGAVEEAKKEGGTVVYGGKVMRPNYVEPTIVTGLGHDASIAHTETFAPILYVFKFKNEEEVFAWN
 NEVKQGLSSSIFTKDLGRIFRWLGPKGSDCGIVNVIPTSGAEIGGAFGGEKHTGGGRESGSDAWKQYMR
 RSTCTINYSKDLPLAQGIKFQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

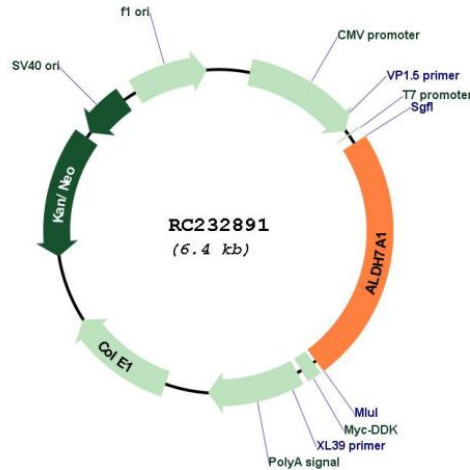
SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:


ACCN: NM_001201377

ORF Size: 1533 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_001201377.2](#)

RefSeq Size: 4953 bp

RefSeq ORF: 1536 bp

Locus ID: 501

UniProt ID: [P49419](#)

Cytogenetics: 5q23.2

Protein Families: Druggable Genome

Protein Pathways: Arginine and proline metabolism, Ascorbate and aldarate metabolism, beta-Alanine metabolism, Butanoate metabolism, Fatty acid metabolism, Glycerolipid metabolism, Glycolysis / Gluconeogenesis, Histidine metabolism, Limonene and pinene degradation, Lysine degradation, Metabolic pathways, Propanoate metabolism, Pyruvate metabolism, Tryptophan metabolism, Valine, leucine and isoleucine degradation

MW: 55.8 kDa

Gene Summary: The protein encoded by this gene is a member of subfamily 7 in the aldehyde dehydrogenase gene family. These enzymes are thought to play a major role in the detoxification of aldehydes generated by alcohol metabolism and lipid peroxidation. This particular member has homology to a previously described protein from the green garden pea, the 26g pea turgor protein. It is also involved in lysine catabolism that is known to occur in the mitochondrial matrix. Recent reports show that this protein is found both in the cytosol and the mitochondria, and the two forms likely arise from the use of alternative translation initiation sites. An additional variant encoding a different isoform has also been found for this gene. Mutations in this gene are associated with pyridoxine-dependent epilepsy. Several related pseudogenes have also been identified. [provided by RefSeq, Jan 2011]