

## Product datasheet for **RC225751**

### **ALDH3A1 (NM\_001135168) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	ALDH3A1 (NM_001135168) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ALDH3A1
Synonyms:	ALDH3; ALDHIII
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RC225751 representing NM\_001135168  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAGCAAGATCAGCGAGGCCGTGAAGCGCGCCCGCGCCCTTCAGCTCGGGCAGGACCCGTCGCTGC  
 AGTTCCGGATCCAGCAGCTGGAGGCGCTGCAGCGCCTGATCCAGGAGCAGGAGCAGGAGCTGGTGGGCGC  
 GCTGGCCGCAGACCTGCAACAAGAATGAATGGAACGCCTACTATGAGGAGGTGGTGTACGTCTAGAGGAG  
 ATCGAGTACATGATCCAGAAGCTCCCTGAGTGGGCCGCGGATGAGCCCGTGGAGAAGACGCCCCAGACTC  
 AGCAGGACGAGCTCTACATCCACTCGGAGCCACTGGGCGTGGTCTCGTCATTGGCACCTGGAACCTACC  
 CTTCAACCTCACCATCCAGCCCATGGTGGGCGCCATCGCTGCAGGGAACCTCAGTGGTCTCAAGCCCTCG  
 GAGCTGAGTGAGAACATGGCGAGCTGCTGGCTACCATCATCCCCAGTACCTGGACAAGGATCTGTACC  
 CAGTAATCAATGGGGGTGTCCTGAGACCAGGAGCTGCTCAAGGAGAGGTTCCACCATATCCTGTACAC  
 GGGCAGCACGGGGGTGGGAAGATCATCATGACGGCTGCTGCCAAGCACCTGACCCTGTACGCTGGAG  
 CTGGGAGGGAAGAGTCCCTGCTACGTGGACAAGAACTGTGACCTGGACGTGGCCTGCCGACGCATCGCT  
 GGGGAAATTCATGAACAGTGGCCAGACCTGCGTGGCCCTGACTACATCCTCTGTGACCCCTCGATCCA  
 GAACCAAATTTGTGGAGAAGCTCAAGAAGTCACTGAAAGAGTTCTACGGGGAAGATGCTAAGAAATCCCGG  
 GACTATGGAAGAATCATTAGTCCCGGCACTTCCAGAGGGTGTGGGCTGATTGAGGGCCAGAAGGTGG  
 CTTATGGGGGCACCGGGATGCCGCCACTCGCTACATAGCCCCACCATCCTCACGGACGTGGACCCCA  
 GTCCCCGTGATGCAAGAGGAGATCTTCGGGCTGTGCTGCCATCGTGTGCGTGCAGCCTGGAGGAG  
 GCCATCCAGTTCATCAACCAGCGTGAGAAGCCCTGGCCCTCTACATGTTCTCCAGCAACGACAAGGTGA  
 TTAAGAAGATGATTGCAGAGACATCCAGTGGTGGGGTGGCGGCCAACGATGTCATCGTCCACATCACCT  
 GCACTCTCTGCCCTTCGGGGCGTGGGAACAGCGGCATGGGATCCTACCATGGCAAGAAGAGCTTCGAG  
 ACTTTCTCTACCGCCGCTCTTGCTGGTGGGCTCTGATGAATGATGAAGGCCTGAAGGTCAGATACC  
 CCCCAGCCCGCCAAGATGACCCAGCAC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC225751 representing NM\_001135168  
 Red=Cloning site Green=Tags(s)

MSKISEAVKRRAAFSSGRTRPLQFRIQQLEALQRLIQEQEQELVGALAADLHKNEWNAYEEVVYVLEE  
 IEYMIQKLPEWAADPEVEKTPQTQDEL YIHSEPLGVVLVIGTWNYPFNLTIQPMVGAIAGNSVVLKPS  
 ELSENMASLLATIIPQYLDKDLYPVINGGVPETTELLKERFDHILYTGSTGVGKIIMTAAAKHLTPVTLE  
 LGGKSPCYVDKNCDLDVACRRIAWGKFMNSGQTCVAPDYILCDPSIQNQIVEKLLKSLKEFYGEDAKKSR  
 DYGRII SARHFQRMGLIEGQKVAYGGTDAATRYIAPTILTDVDPQSPVMQEEIFGPVLPIVCVRSLEE  
 AIQFINQREKPLALYMFSSNDKVIKKMIAETSSGGVAANDVIVHITLHSLPFGGVSNGMGSYHGKKSFE  
 TFSHRSCLVRPLMNDEGLKVRYPPSPAKMTQH

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6150\\_f04.zip](https://cdn.origene.com/chromatograms/mk6150_f04.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_001135168

**ORF Size:** 1359 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\\_001135168.1](#), [NP\\_001128640.1](#)

**RefSeq ORF:** 1362 bp

**Locus ID:** 218

**UniProt ID:** [P30838](#)

**Cytogenetics:** 17p11.2

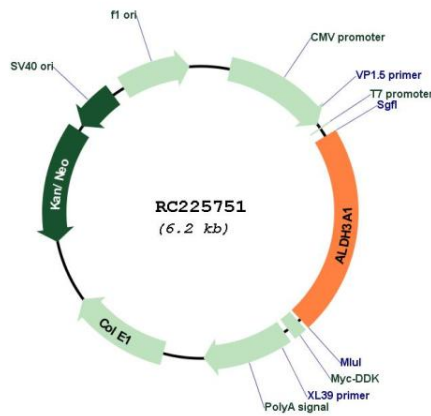
**Protein Families:** Druggable Genome

**Protein Pathways:** Drug metabolism - cytochrome P450, Glycolysis / Gluconeogenesis, Histidine metabolism, Metabolic pathways, Metabolism of xenobiotics by cytochrome P450, Phenylalanine metabolism, Tyrosine metabolism

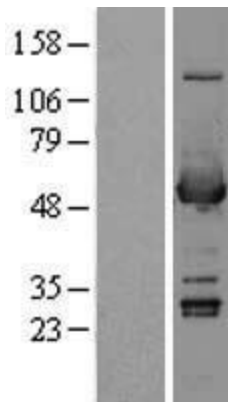
**MW:** 50.2 kDa

**Gene Summary:** Aldehyde dehydrogenases oxidize various aldehydes to the corresponding acids. They are involved in the detoxification of alcohol-derived acetaldehyde and in the metabolism of corticosteroids, biogenic amines, neurotransmitters, and lipid peroxidation. The enzyme encoded by this gene forms a cytoplasmic homodimer that preferentially oxidizes aromatic and medium-chain (6 carbons or more) saturated and unsaturated aldehyde substrates. It is thought to promote resistance to UV and 4-hydroxy-2-nonenal-induced oxidative damage in the cornea. The gene is located within the Smith-Magenis syndrome region on chromosome 17. Multiple alternatively spliced variants, encoding the same protein, have been identified. [provided by RefSeq, Sep 2008]

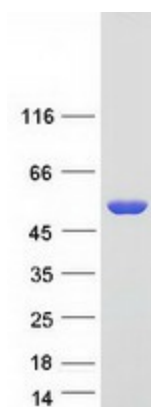
**Product images:**



Circular map for RC225751



Western blot validation of overexpression lysate (Cat# [LY427570]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC225751 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ALDH3A1 protein (Cat# [TP325751]). The protein was produced from HEK293T cells transfected with ALDH3A1 cDNA clone (Cat# RC225751) using MegaTran 2.0 (Cat# [TT210002]).