

## Product datasheet for **RG202440**

### ALDH3A1 (NM\_000691) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	ALDH3A1 (NM_000691) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	ALDH3A1
Synonyms:	ALDH3; ALDHIII
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG202440 representing NM\_000691  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAGCAAGATCAGCGAGGCCGTGAAGCGCGCCCGCGCCGCTTCAGCTCGGGCAGGACCCGTCCGCTGC  
 AGTTCCGGATCCAGCAGCTGGAGGCGCTGCAGCGCCTGATCCAGGAGCAGGAGCAGGAGCTGGTGGGCGC  
 GCTGGCCGACAGCTGCACAAGAATGAATGGAACGCTACTATGAGGAGGTGGTGTACGTCTAGAGGAG  
 ATCGAGTACATGATCCAGAAGCTCCCTGAGTGGGCGCGGATGAGCCCGTGGAGAAGACGCCCCAGACTC  
 AGCAGGACGAGCTCTACATCCACTCGGAGCCACTGGGCGTGGTCTCGTCAATGGCACCTGGAACCTACC  
 CTTCAACCTCACCATCCAGCCATGGTGGGCGCCATCGCTGCAGGGAACGCAGTGGTCTCAAGCCCTCG  
 GAGCTGAGTGAGAACATGGGAGCCTGCTGGCTACCATCATCCCCAGTACCTGGACAAGGATCTGTACC  
 CAGTAATCAATGGGGGTGTCCCTGAGACCAGGAGCTGCTCAAGGAGAGGTTCCACCATATCCTGTACAC  
 GGGCAGCACGGGGTGGGAAGATCATCATGACGGCTGCTGCCAAGCACCTGACCCTGTACGCTGGAG  
 CTGGGAGGGAAGAGTCCCTGCTACGTGGACAAGAACTGTGACCTGGACGTGGCCTGCCGACGCATCGCT  
 GGGGAAATTCATGAACAGTGGCCAGACCTGCGTGGCCCCAGACTACATCCTCTGTGACCCCTCGATCCA  
 GAACCAAATTTGTGGAGAAGCTCAAGAAGTCACTGAAAGAGTTCTACGGGGAAGATGCTAAGAAATCCCGG  
 GACTATGGAAGAATCATTAGTCCCGGCACTTCCAGAGGGTGTATGGGCTGATTGAGGGCCAGAAGGTGG  
 CTTATGGGGGACCGGGGATGCCGCCACTCGCTACATAGCCCCACCATCCTCACGGACGTGGACCCCCA  
 GTCCCCGTGATGCAAGAGGAGATCTTCGGGCCGTGTGCTGCCATCGTGTGCGTGCAGCCTGGAGGAG  
 GCCATCCAGTTCATCAACCAGCGTGAGAAGCCCTGGCCCTCTACATGTTCTCCAGCAACGACAAGGTGA  
 TTAAGAAGATGATTGCAGAGACATCCAGTGGTGGGGTGGCGGCCAACGATGTCATCGTCCACATCACCTT  
 GCACTCTCTGCCCTTCGGGGCGTGGGAACAGCGGCATGGGATCCTACCATGGCAAGAAGAGCTTCGAG  
 ACTTTCTCTACCGCCGCTCTTGCTGGTGGGCTCTGATGAATGATGAAGGCCTGAAGGTCAGATACC  
 CCCCAGCCCGCCAAGATGACCCAGCAC

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:**

>RG202440 representing NM\_000691  
 Red=Cloning site Green=Tags(s)

MSKISEAVKRARAASFSSGRTRPLQFRIQQLEALQRLIQEQEQELVGALAADLHKNEWNAYEEVVVYVLEE  
 IEYMIQKLPEWAADPEVEKTPQTQDEL YIHSEPLGVVLVIGTWNYPFNLTIQPMVGAIAGNAVVLKPS  
 ELSENMA LLATIIPQYLDKDLYPVINGGVPETTELLKERFDHILYTGSTGVGKIIMTAAAKHLTPVTLE  
 LGGKSPCYVDKNCDLDVACRRIAWGKFMNSGQTCVAPDYILCDPSIQNQIVEKLLKSLKEFYGEDAKKSR  
 DYGRII SARHFQRVMGLIEGQKVAYGGTGAATRYIAPTILTDVDPQSPVMQEEIFGPVLPIVCVRSLEE  
 AIQFINQREKPLALYMFSSNDKVIKKMIAETSSGVAAANDVIVHITLHSLPFGVGNMGSYHGKKSFE  
 TFSHRRSCLVRPLMNDEGLKVRYPSPAKMTQH

**TRTRPLE** – GFP Tag – V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**


**ACCN:** NM\_000691

**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\\_000691.2](#)

**RefSeq Size:** 1722 bp

**RefSeq ORF:** 1362 bp

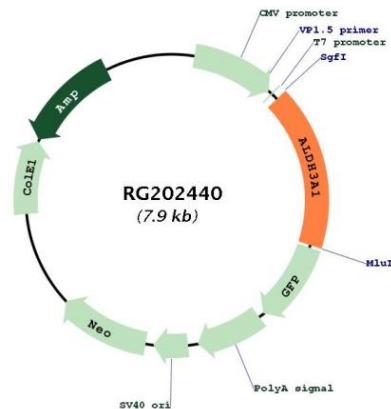
**Locus ID:** 218

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

**Cytogenetics:** 17p11.2

<b>Domains:</b>	aldehyd
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Drug metabolism - cytochrome P450, Glycolysis / Gluconeogenesis, Histidine metabolism, Metabolic pathways, Metabolism of xenobiotics by cytochrome P450, Phenylalanine metabolism, Tyrosine metabolism
<b>Gene Summary:</b>	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 RG202440