

Product datasheet for **RG225750**

ALDH3A1 (NM_001135167) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ALDH3A1 (NM_001135167) 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:

>RG225750 representing NM_001135167
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGAGCAAGATCAGCGAGGCCGTGAAGCGCGCCCGCGCCGCTTCAGCTCGGGCAGGACCCGTCCGCTGC
 AGTTCCGGATCCAGCAGCTGGAGGCGCTGCAGCGCCTGATCCAGGAGCAGGAGCAGGAGCTGGTGGGCGC
 GCTGGCCGACAGCTGCACAAGAATGAATGGAACGCTACTATGAGGAGGTGGTGTACGTCTAGAGGAG
 ATCGAGTACATGATCCAGAAGCTCCCTGAGTGGGCGCGGATGAGCCCGTGGAGAAGACGCCCCAGACTC
 AGCAGGACGAGCTCTACATCCACTCGGAGCCACTGGGCGTGGTCTCGTCATTGGCACCTGGAACCTACC
 CTTCAACCTCACCATCCAGCCATGGTGGGCGCCATCGCTGCAGGGAACCTCAGTGGTCTCAAGCCCTCG
 GAGCTGAGTGAGAACATGGGAGCCTGCTGGCTACCATCATCCCCAGTACCTGGACAAGGATCTGTACC
 CAGTAATCAATGGGGGTGTCCTGAGACCAGGAGCTGCTCAAGGAGAGGTTCCACCATATCCTGTACAC
 GGGCAGCACGGGGTGGGAAGATCATCATGACGGCTGCTGCCAAGCACCTGACCCTGTACGCTGGAG
 CTGGGAGGGAAGAGTCCCTGCTACGTGGACAAGAACTGTGACCTGGACGTGGCCTGCCGACGCATCGCT
 GGGGAAATTCATGAACAGTGGCCAGACCTGCGTGGCCCTGACTACATCCTCTGTGACCCCTCGATCCA
 GAACCAAATTTGTGGAGAAGCTCAAGAAGTCACTGAAAGAGTTCTACGGGGAAGATGCTAAGAAATCCCGG
 GACTATGGAAGAATCATTAGTCCCGGCACTTCCAGAGGGTGTGGGCTGATTGAGGGCCAGAAGGTGG
 CTTATGGGGGACCGGGATGCCCCACTCGCTACATAGCCCCACCATCCTCACGGACGTGGACCCCCA
 GTCCCCGTGATGCAAGAGGAGATCTTCGGGCTGTGCTGCCATCGTGTGCGTGCAGCCTGGAGGAG
 GCCATCCAGTTCATCAACCAGCGTGAGAAGCCCTGGCCCTCTACATGTTCTCCAGCAACGACAAGGTGA
 TTAAGAAGATGATTGCAGAGACATCCAGTGGTGGGGTGGCGGCCAACGATGTCATCGTCCACATCACCTT
 GCACTCTCTGCCCTTCGGGGCGTGGGAACAGCGGCATGGGATCCTACCATGGCAAGAAGAGCTTCGAG
 ACTTTCTCTACCGCCGCTCTTGCTGGTGGGCTCTGATGAATGATGAAGGCCTGAAGGTCAGATACC
 CCCCAGCCCGCAAGATGACCCAGCAC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

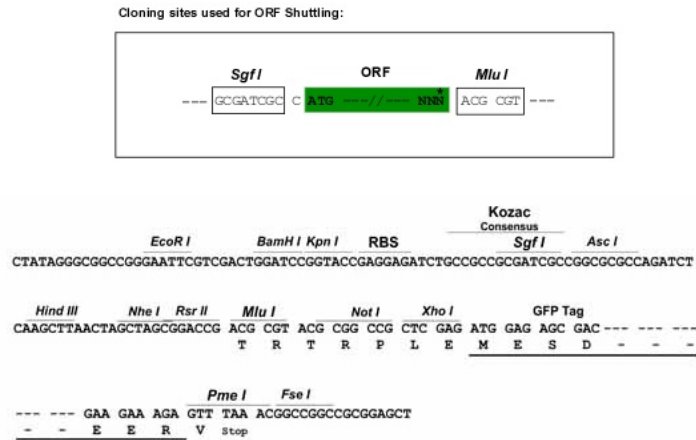
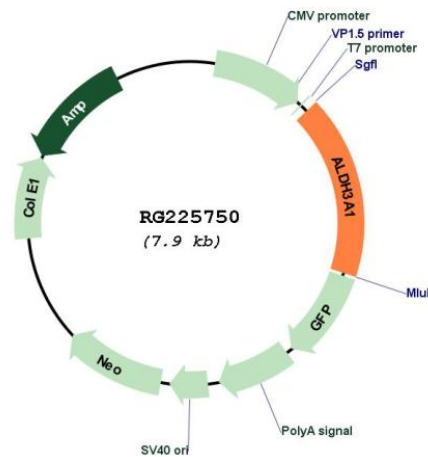
>RG225750 representing NM_001135167
 Red=Cloning site Green=Tags(s)

MSKISEAVKRARAASFSSGRTRPLQFRIQQLEALQRLIQEQEQELVGALAADLHKNEWNAYEEVVYVLEE
 IEYMIQKLPEWAADPEVEKTPQTQDEL YIHSEPLGVVLVIGTWNYPFNLTIQPMVGAI AAGNSVVLKPS
 ELSENMASLLATIIPQYLDKDLYPVINGGVPETTELLKERFDHILYTGSTGVGKIIMTAAAKHLTPVTLE
 LGGKSPCYVDKNCDLDVACRRIAWGKFMNSGQTCVAPDYILCDPSIQNQIVEKLLKSLKEFYGEDAKKSR
 DYGRII SARHFQRVMGLIEGQKVAYGGTGAATRYIAPTILTDVDPQSPVMQEEIFGPVLPIVCVRSLEE
 AIQFINREKPLALYMFSSNDKVIKKMIAETSSGVAAANDVIVHITLHSLPFGVGNMGSYHGKKSFE
 TFSHRRSCLVRPLMNDEGLKVRYPSPAKMTQH

TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

Cloning Scheme:

Plasmid Map:


ACCN: NM_001135167

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:	<ol style="list-style-type: none">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:	<u>NM_001135167.1, NP_001128639.1</u>
RefSeq Size:	1789 bp
RefSeq ORF:	1362 bp
Locus ID:	218
UniProt ID:	<u>P30838</u>
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
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]