

## Product datasheet for **MG222097**

### **Aldh1a3 (NM\_053080) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Aldh1a3 (NM_053080) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Aldh1a3
Synonyms:	ALDH6; RALDH3; V1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG222097 representing NM\_053080  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGCTACCACCAACGGGCTGTGGAAACGGACAGCCGGATGGAAACCGCCTGCCTTGCCGCGCCCA  
 TCCGCAACTTGGAGGTCAAGTTCACCAAGATATTTATCAACAACGACTGGCACGAATCCAAGAGTGGAA  
 AAAGTTTGCCACATATAACCTTCAACACTAGAGAAAATATGTGAGGTGGAAAGGAGATAAGCCCGAT  
 GTGGACAAGGCTGTGGAGGCGCTCAAGCTGCCTTCCAGCGGGGATCCCCGTGGCGCCGGCTGGATGCAC  
 TGAGCAGAGGCCAGTTGCTGCATCAGCTGGCTGACCTTGTAGAAAGGACCGAGCGATCTGGCTACTCT  
 GGAGACCATGGACACCGCAAGCCATTCCTTCATGCCTTTTTCGTCGACCTGGAAGGCTGTATTAAGACC  
 TTCAGATATTTTCCGGGTGGGAGACAAAATCCAGGGCAGGACCATCCCACAGATGACAACGTTGTGT  
 GCTTACCAGGCATGAGCCCATCGGGTGTGTGGGGCCATTACACCATGGAACCTCCCCCTGCTGATGCT  
 GGCTGGAAACTGGCTCCTGCCCTGTGCTGTGGGAACACCGTGGTCTGAAGCCAGCTGAGCAGACCCCT  
 CTACGGCTCTGTACCTAGCCTCTCTCATCAAAGAGGTCCGGTTCCTCCGGGTGTGGTGAACATTTGAC  
 CAGGCTTTGGGCCCACTGTGGGAGCAGCAATTTCTCCATCCGAGATCAACAAGATAGCCTTACCCGG  
 CTCCACAGAGGTTGAAAGCTGGTCAAGAGCCGCTCCCGGAGCAACCTGAAGAGGGTCACTGGAG  
 CTAGGAGGCAAGAACCCTGTCATCGTGTGTGCAGATGCTGACTTGGACTTGGCCGTGAGTGTGCTCACC  
 AGGGAGTGTCTTCAACCAAGGCCAGTGTGTACAGCGGCTCCAGGGTGTTCGTGGAAGAGCAGGTCTA  
 CGGGGAGTTTGTGAGGAGGAGTGTGGAGTTCGCCAAGAAGAGGCCAGTTGGAGACCCCTTCGATGCCAAA  
 ACGGAGCAGGGCCCTCAGATCGACAAAAGCAGTTTGCACAAAATCCTCGAGCTGATTGAGAGTGGGAAGA  
 AGGAAGGGGCAAGCTAGAATGTGGGGGTCAGCCATGGAGGAGAGGGCTGTTTCATCAAACCCACGGT  
 CTTCTCAGATGTTACGGACAACATGAGGATTGCCAAGAGGAGATTTTCGGACCAGTGCAGCCGATCCTG  
 AAGTTCAAAAACCTGGAGAGGTGATCAAGAGAGCGAATAGCACCGACTATGGACTCACAGCAGCAGTGT  
 TCACAAAAACCTGGACAAAGCACTGAAGCTGGCTGCTGCGCTCGAGTCGGGGACAGTCTGGATCAACTG  
 CTACAATGCATTTATGCACAGGCTCCATTTGGTGGCTTCAAAATGTCTGGGAATGGCAGAGAAGTGGGA  
 GAATATGCTCTGGCTGAATATACAGAAGTAAAACCTGTCACCATCAAACCTCGAGGAGAAGAACCC

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>MG222097 representing NM\_053080  
 Red=Cloning site Green=Tags(s)

MATTNGAVENTQPDGKPPALPRPIRNLEVKFTKIFINNDWHESKSGRKFATYNPSTLEKICEVEEGDKPD  
 VDKAVEAAQAQAFQRGSPWRRDLALSRGQLLHQLADLVERDRAILATLETMDTGKPFLLHAFVFDLEGCIKT  
 FRYFAGWADKIQRITPTDDNVVCFTRHEPIGVCGAITPWNFPLLMALAWKLAPALCCGNTVVLKPAEQTP  
 LTALYLASLIKEVGFPPGVVNI VPGFGPTVGAIISSHPQINKIAFTGSTEVGKLVREAASRNLKRVTL  
 LGGKNPCIVCADADLDAVECAHQGVFFNQGCCTAASRVFVEEQVYGEFVRRSVEFAKRPVGDPPFDAK  
 TEQGPQIDQKQFDKILELIESGKKEGAKLECGGSAMEDRGLFIKPTVFSVDVTDNMRIAKEEIFGPVQPIL  
 KFKNLEEVIKRANSTDYGLTAAVFTKNLKDALKLAAALESQVWVINCYNFYAQAQPFGGFKMSGNGREL  
 EYALAEYTEVKTVTIKLEKNP

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_053080

**ORF Size:** 1536 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.

**Note:** Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

**RefSeq:** [NM\\_053080.3](#), [NP\\_444310.3](#)

**RefSeq Size:** 3423 bp

**RefSeq ORF:** 1539 bp

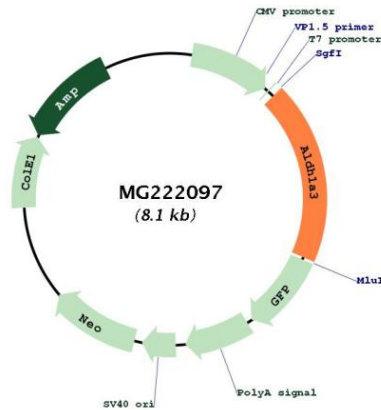
**Locus ID:** 56847

UniProt ID: [Q9JHW9](#)

Cytogenetics: 7 C

Gene Summary: NAD-dependent aldehyde dehydrogenase that catalyzes the formation of retinoic acid (PubMed:11044606, PubMed:11013254, PubMed:14623956). Has high activity with all-trans retinal, and has much lower in vitro activity with acetaldehyde (By similarity). Required for the biosynthesis of normal levels of retinoic acid in the embryonic ocular and nasal regions; retinoic acid is required for normal embryonic development of the eye and the nasal region (PubMed:14623956).[UniProtKB/Swiss-Prot Function]

**Product images:**



Circular map for MG222097