

## Product datasheet for **RR201952**

### **Aldh1a3 (NM\_153300) Rat Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Aldh1a3 (NM_153300) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Aldh1a3
Synonyms:	Aldh6
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RR201952 representing NM\_153300  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGCCACCGCTAACGGGGCCGTGGAAACGGACAGCCTGATGGGAAACCGCCTGCCTTGCCGCGCCCCA  
 TCCGCAACTTGGAGGTCAAGTTCACCTAAGATATTTATCAACAATGACTGGCACGAACCCAAGAGTGGAA  
 AAAGTTTGCCACATATAACCTTCAACTCTAGAGAAAATATGTGAGGTGGAAGAAGGCGATAAGCCCGAT  
 GTGGACAAGGCCGTGGAGGCCGCCAAGCTGCCTTCCAGAGGGGCTCCCGTGGCGCAGGCTGGATGCC  
 TGAGTCGTGGCCAGTTGTTGCACCAAGTTGGCTGATCTTATAGAAAGGGACCGCGCTATCTGGCAACTCT  
 AGAGACCATGGACACCGCAAGCCGTTCCCTTCATGCCTTTTTCGTCGACCTGGAGGGCTGTATTAAGACC  
 TTCAGATATTTTCCGGGTGGGCAGACAAAATCCAGGGCAGGACCATCCCACAGATGATAATGTCATGT  
 GCTTACCAGGCATGAGCCATTGGGGTGTGTGGGGCCATTACACCATGGAACCTCCCCCTGTTGATGCT  
 GGCTGGAAACTGGCTCCTGCCCTGTGCTGCGGGAACACCGTGGTCTGAAGCCAGCTGAGCAGACGCCCT  
 CCACTGCCCTGTACCTCGCTTCTCTCATCAAAGAGGTCCGGTCCCTCCAGGTGTGGTGAACATTTGTGC  
 CAGGCTTTGGGCCACAGTGGGAGCAGCAATCTCTCTCATCCACAGATCAACAAGATAGCCTTACCAGG  
 CTCCACAGAGGTTGAAAGCTGGTTAAAGAAGCTGCCTCCAGGAGCAACCTGAAGCGGGTCACTGGAG  
 CTGGGAGGCAGGAACCCGTGCATCGTGTGTGCGGACGCTGACCTGGACTTGGCTGTGGAGTGTGCTCACC  
 AGGGAGTGTCTTCAACCAAGGCCAGTGTGCACAGCGGCTCCAGGGTGTGTTGGAAGAGCAGGTCTA  
 CGGGGAGTTTGTGAGGAGGAGTGTGGAGTTCGCCAAGAAGAGGCCAGTTGGAGACCCCTTCGATGCCAAA  
 ACGGAGCAGGGCCCTCAGATCGACAAAAGCAGTTTGCACAAAATCCTCGAGCTGATCGAGAGTGGGAAGA  
 AGGAAGGGGCCAAGCTAGAATGTGGGGGTGAGCCATGGAGGACAGAGGGCTGTTTCATCAAACCCACCGT  
 CTCTCAGACGTTACGGACAACATGAGGATTGCCAAAGAGGAGATTTTTGGACCAGTGAACCAATACTG  
 AAGTTCAAAAACCTGGAGGAAGTAATCAAAGAGCGAACAGCACTGACTATGGGCTCACGCGGCCGTGT  
 TCACAAAACCTCGACAAAAGCCCTGAAGCTGGCTTCCGCGCTCGAGTCGGGGACAGTCTGGGTCAACTG  
 CTACAACGCATTCTATGCACAGGCTCCATTTGGTGGCTTCAAATGTCTGGAAATGGCAGAGAAGTGGT  
 GAATACGCTTTGGCTGAATACACAGAAGTAAAACCTGTCACCATCAAACCTGATGAGAAGAACCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RR201952 representing NM\_153300  
 Red=Cloning site Green=Tags(s)

MATANGAVENQPDGKPPALPRPIRNLEVKFTKIFINNDWHEPKSGRKFATYNPSTLEKICEVEEGDKPD  
 VDKAVEAAQAAFQRGSPWRRDLALSRGQLLHQLADLIERDRAILATLETMDTGKPFLLHAFFVDLEGIKT  
 FRYFAGWADKIQGRTIPTDDNVMCFTRHEPIGVCGAITPWNFPLLMLAWKLAPALCCGNTVVLKPAEQTP  
 LTALYLASLIKEVGFPPGVVNI VPGFGPTVGAIISSHPQINKIAFTGSTEVGKLVKEAASRSNLKRVTL  
 LGGRNPCIVCADADLDLAVECAHQGVFFNQGCCTAASRVFVEEQVYGEFVRRSVEFAKKRPVGDPFDAK  
 TEQGPQIDQKQFDKILELIESGKKEGAKLECGGSAMEDRGLFIKPTVFDVTDNMRIAKEEIFGPVQPIL  
 KFKNLEEVIKRANSTDYGLTAAVFTKNLDKALKLASALESVWVNCYNAFYAQAPFGGFKMSGNGREL  
 EYALAEYTEVKTVTIKLDEKNP

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_153300

**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.

**RefSeq:** [NM\\_153300.1](#), [NP\\_695212.1](#)

**RefSeq Size:** 1539 bp

**RefSeq ORF:** 1539 bp

**Locus ID:** 266603

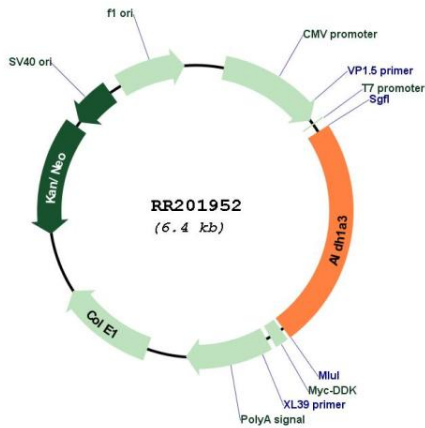
**UniProt ID:** [Q8K4D8](#)

**Cytogenetics:** 1q22

**MW:** 56.2 kDa

**Gene Summary:** NAD-dependent aldehyde dehydrogenase that catalyzes the formation of retinoic acid (By similarity). 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 (By similarity).[UniProtKB/Swiss-Prot Function]

**Product images:**



Circular map for RR201952