

## Product datasheet for **MR222723**

### **Aldh7a1 (NM\_138600) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Aldh7a1 (NM_138600) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Aldh7a1
Synonyms:	Atq1; D18Wsu181e
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR222723 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTGGCGTGTGCCCGCAGGCTCTGTGTGCAGTCTGTGAAGACCAGCAAGCTTTCGGACCTTGGAGCA  
 GGCCCGCCGCCACATGTCTACTCTGCTGATCCATCATCCCAGTATGCCTGGCTGCAAGACCTGGGGCT  
 CCGCGAGGATAACGAGGGCGTGTATAATGGAAGCTGGGGCGGCCGGGAGAGGTAATTACGACCTATTGT  
 CCTGCTAAACAATGAGCCAATAGCAAGAGTCCGACAGGCCAGCCTGAAGGACTATGAAGAAACCATCGGGA  
 AAGCCAAGAAAGCCTGGAACATCTGGGCAGATATTCTGCCCCAAAACCGGAGAAATAGTCAGAAAGAT  
 TGGCGATGCCTTCGGGAGAAGATCCAACACTGGGAAGACTGGTGTCTTTGGAGATGGGAAAACTCTG  
 GTGGAAGGAATAGGCGAGGTTCCAGGAGTACGTGGACGTCTGCGATTATGCTGCTGGCTTGTGAGGATGA  
 TCGGGGGACCCACCTTGCCTTCTGAAAGACCCGGCCATGCTCTCATCGAAATGTGGAATCCCTTAGGCTT  
 GGTGGGAATCATCACTGCCTTCAATTTCCCGTGGCTGTGTTGGCTGGAACAATGCCATAGCTCTGATC  
 ACAGGGAATGTCTGCCTTTGGAAAGGAGACCCGACTACGTCCCTCGTTAGTGTGGCTGTCAAAAAGATCA  
 TAGCCCAGGTTTTGGAGGACAACCTGCTGCCCGGTGCCATTTGTTCCCTGGTTTGTGGTGGAGCAGATAT  
 CGGCACAACGATGGCCAGAGATGAGCGTGTGAACCTGCTGTCTTCACTGGGAGCACTCAGGTGGGGAAG  
 GAGGTGGCCCTCATGGTGCAGGAGAGGTTTGGGAAAAGCTTGTGGAGCTGGAGGAAACAATGCCATTA  
 TTGCTTTCGAGGACCGGACCTCAGCTTGGTTGTTCCGTCAGTTCGTTTCCCGCGTGGGAACAGCTGG  
 GCAAAGGTGTACCACTGTGAGGAGACTGTTTTGCACGAAAGCATCCATAATGAAGTTGTGGACAGACTG  
 AGAAGTGCCTACTCACAGATCCGTGTTGGGAACCCCTGGGACCCCAATATCCTCTATGGACCGCTGCATA  
 CCAAACAGGCAGTGAGCATGTTTTGTGAGAGCCGTGGAAGAAGCCAAGAAACAAGGGGACAGTGGTCTA  
 TGGGGGCAAGGTCATGGACCACCCTGGCAATTAGGTGGAACCCACCATTGTGACCGGCTTGGCCATGAT  
 GCGCCCATTTGTTACCAGGAGACTTTTGCCCAATCCTCTATGTCTTCAAATCCAGGATGAAGAAGAGG  
 TCTTTGAATGGAACAATGAAGTAAAACAGGACTTTCAAGTAGTATCTTTACAAAGATTTGGCAGAAT  
 CTTCCGCTGGCTTGGACCTAAAGGTTCCGACTGTGGCATCGTGAACGTCAATATTCCTACCAGCGGGGCT  
 GAGATTGGTGGTGCCTTTGGCGGAGAGAAGCACACTGGCGGTGGCCGGGAGTCTGGCAGCGACGCCTGGA  
 AGCAGTACATGAGGAGATCCACATGTACCATCACTACAGCACGTCCCTCCCTCTGGCTCAGGGAATCAA  
 GTTTCAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR222723 protein sequence  
 Red=Cloning site Green=Tags(s)

MWRVPRRLCVQSVKTSKLSGPWSRPAAHMSTLLIHHPQYAWLQDLGLREDNEGVYNGSWGGRGEVITTYC  
 PANNEPIARVRQASLKDYEETIGKAKKAWNIWADIPAPKRGEIVRKIGDAFREKIQLLGRVLSLEMKIL  
 VEGIGEVQEYVDVCDYAAGLSRMIGGPTLPSEPRGHALIEMWNPLGLVGIITAFNFPVAVFGWNNIALI  
 TGNVCLWKGAPTTSLVSVAVTKIIAQVLEDNLLPGAICSLVCGGADIGTTMARDERNLLSFTGSTQVQK  
 EVALMVQERFGKSLLELGGNNAIIAFEDADLSLVPSVLF AAVGTAGQRCTTVRRLFLHESIHNVEVDRL  
 RSAYSQIRVGNPWPNIILYGPLHTKQAVSMFVRAVEEAKKQGGTVVYGGKVM DHPGNYVEPTIVTGLAHD  
 APIVHQETFAPILYVFKQDEEEVF EWNNEVKQGLSSSIFTKDLGRIFRWLGPKGSDCGIVNVIPTSGA  
 EIGGAFGGEKHTGGRESGSDAWKQYMRRSTCTINYSTSLPLAQGIKFQ

**TR**TRPLEQKLI SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_138600

**ORF Size:** 1617 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\\_138600.4](#), [NP\\_613066.2](#)

**RefSeq Size:** 2911 bp

**RefSeq ORF:** 1620 bp

**Locus ID:** 110695

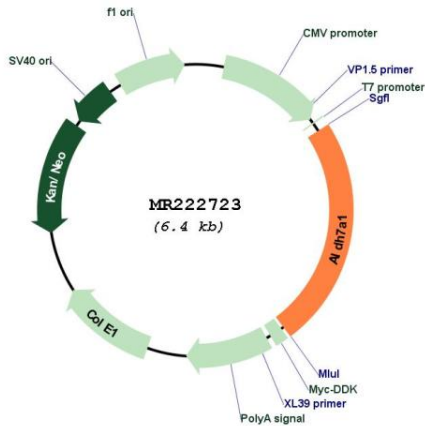
**UniProt ID:** [Q9DBF1](#)

**Cytogenetics:** 18 30.55 cM

**MW:** 58.9 kDa

**Gene Summary:** Multifunctional enzyme mediating important protective effects. Metabolizes betaine aldehyde to betaine, an important cellular osmolyte and methyl donor. Protects cells from oxidative stress by metabolizing a number of lipid peroxidation-derived aldehydes. Involved in lysine catabolism (By similarity).[UniProtKB/Swiss-Prot Function]

**Product images:**



Circular map for MR222723