

Product datasheet for **RG213029**

ALDH8A1 (NM_022568) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ALDH8A1 (NM_022568) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	ALDH8A1
Synonyms:	ALDH12; DJ352A20.2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG213029 representing NM_022568
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCTGGAACAAACGCACCTTTTGTATGCTGAAAACTTCATAGATGAAAAATTTTACCTTGTAGCTCAT
 ATATAGATTCTTACGACCATCAACAGGGGAAGTGATTGCAGAGTGCCAAATAGTGAAAAAGACGAGAT
 CGAAGCCGCGGTCAAGGCCGCCAGAGAAGCCTTTCCAGCTGGTCATCCCGCAGCCCCCAGGAGCGCTCA
 CGGGTCTGAACAGGTGGCGGATTTGCTGGAGCAGTCCCTGGAGGAGTTTCCCAGGCCGAGTCTAAAG
 ACCAAGGGAAAACCTTAGCACTGGCAAGAACATGGACATTCCCCGGTCTGTGCAGAACTTCAGTTCTT
 CGTTCCTCCAGCTGCACCACAGTGCAGAGTGCACGCAGATGGACCACCTGGGCTGCATGCACTACAGC
 GTGCGGGCCCCGGTGGGAGTCGCTGGTCTGATCAGCCCCGGAATTTGCCACTCTACTTGTGACCTGGA
 AGATAGCTCCAGCGATGGCTGCAGGGAACACTGTGATAGCCAAGCCAGTGCAGTGCATTCAGTGCAGTGC
 GTGGATGTTGTGCAAACTCCTGGATAAAGCAGGTGTTCCACCAGGTGTGGTCAATATTGTGTTTGAACC
 GGGCCCAGGGTGGGTGAGGCCCTGGTGTCCACCCAGAGGTGCCCTGATCTCCTCACCGGAGCCAGC
 CCACCGCTGAGCGGATCACCCAGCTGAGCGCTCCCCACTGCAAAAAGCTCTCCCTGGAGCTGGGGGGCAA
 GAATCCTGCCATCATCTTTGAGGACGCCAACCTGGATGAGTGCATTCCGCAACCGTCAGGTCCAGCTTT
 GCCAACAGGGTGAATCTGTCTCTGTACCAGCAGGATCTTTGTCCAGAAGAGCATCTATAGTGAATTTT
 TAAAGAGATTTGTAGAAGCTACCAGAAAGTGGAAAGTCCGATCCCTCTGATCCACTGGTGAGCATAGG
 TGCTCTGATAAGTAAAGCACATTTGGAGAAAGTCAAAGTTACGTCAAGAGAGCTCTTGTGAAGGTGCC
 CAAATTTGGTGGGTGAGGGAGTGGATAAGTTGAGCCTCCCTGCCAGGAACCAGGCAGGCTACTTTATGC
 TTCCCACGGTGATAACAGACATTAAGGATGAATCCTGCTGCATGACGGAAGAGATATTTGGTCCAGTGC
 GTGTGCTGCTCCCTTTGATAGTGAAGAGGAGGTGATTGAAAGAGCCAACAACGTTAAGTATGGGCTGGCG
 GCTACCGTGTGGTCCAGCAATGTGGGGCGCTCCACCGGTGGCTAAGAAGCTGCAGTCTGGCTTGGTCT
 GGACCAACTGCTGGCTCATCAGGGAGCTGAACCTTCTTTTCGGGGGGATGAAGAGTTCTGGAATAGGTAG
 AGAGGGAGCCAAGGACTTACGACTTCTCACTGAGATCAAAACCATCACCGTTAAACAC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG213029 representing NM_022568
 Red=Cloning site Green=Tags(s)

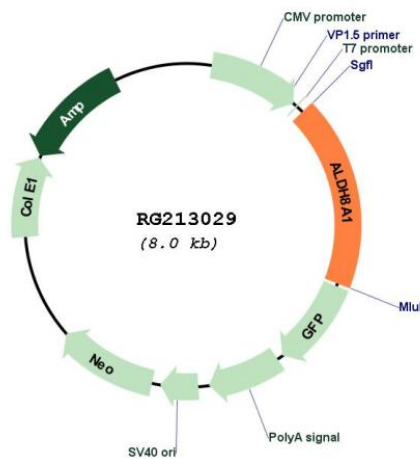
MAGTNALLMLENFIDGKFLPCSSYIDSYPSTGEVYCRVPNSGKDEIEAAVKAAREAFPSWSSRSPQERS
 RVLNQVADLLEQSLEEFQAESKDQKTLALARTMDIPRSVQNFRRFASSSLHHTSECTQMDHLGCMHYT
 VRAPVGVAGLISPWNLPYLLTWKIAPAMAAGNTVIAKPELTSVTAWMLCKLLDKAGVPPGVVNIIVFGT
 GPRVGEALVSHPEVPLISFTGSQPTAERITQLSAPHCKKLSLELGGKNPAIIFEDANLDECIPATVRSSF
 ANQGEICLCTSRIFVQKSIYSEFLKRFVEATRWKVGIPSDPLVIGALISKAHLEKVRVSYVKRALAEGA
 QIWCGEVVDKLSLPARNQAGYFMLPTVITDIKDESCMTEEIFGPVTCVVPFDSEEEVIERANNVKYGLA
 ATVWSSNVGRVHRVAKKLQSQLVWNTCWLIRELNLPFGGMKSSGIGREGAKDSYDFFTEIKTITVKH

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:

Plasmid Map:


ACCN: NM_022568

ORF Size: 1461 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_022568.4](#)

RefSeq Size: 2549 bp

RefSeq ORF: 1464 bp

Locus ID: 64577

UniProt ID: [Q9H2A2](#)

Cytogenetics: 6q23.3

Domains: aldedh

Protein Families: Druggable Genome

Gene Summary: This gene encodes a member of the aldehyde dehydrogenase family of proteins. The encoded protein has been implicated in the synthesis of 9-cis-retinoic acid and in the breakdown of the amino acid tryptophan. This enzyme converts 9-cis-retinal into the retinoid X receptor ligand 9-cis-retinoic acid, and has approximately 40-fold higher activity with 9-cis-retinal than with all-trans-retinal. In addition, this enzyme has been shown to catalyze the conversion of 2-aminomuconic semialdehyde to 2-aminomuconate in the kynurenine pathway of tryptophan catabolism. [provided by RefSeq, Jul 2018]