OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for RC200723

ALDH1A1 (NM_000689) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ALDH1A1 (NM_000689) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ALDH1A1
Synonyms:	ALDC; ALDH-E1; ALDH1; ALDH11; HEL-9; HEL-S-53e; HEL12; PUMB1; RALDH1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC200723 representing NM_000689
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGTCATCCTCAGGCACGCCAGACTTACCTGTCCTACTCACCGATTTGAAGATTCAATATACTAAGATCT
TCATAAACAATGAATGGCATGATTCAGTGAGTGGCAAGAAATTTCCTGTCTTTAATCCTGCAACTGAGGA
GGAGCTCTGCCAGGTAGAAGAAGGAGATAAGGAGGATGTTGACAAGGCAGTGAAGGCCGCAAGACAGGCT
TTTCAGATTGGATCCCCGTGGCGTACTATGGATGCTTCCGAGAGGGGGCGACTATTATACAAGTTGGCTG
ATTTAATCGAAAGAGATCGTCTGCTGCTGGCGACAATGGAGTCAATGAATGGTGGAAAACTCTATTCCAA
TGCATATCTGAATGATTTAGCAGGCTGCATCAAAACATTGCGCTACTGTGCAGGTTGGGCTGACAAGATC
CAGGGCCGTACAATACCAATTGATGGAAATTTTTTTACATATACAAGACATGAACCTATTGGTGTATGTG
GCCAAATCATTCCTTGGAATTTCCCGTTGGTTATGCTCATTTGGAAGATAGGGCCTGCACTGAGCTGTGG
AAACACAGTGGTTGTCAAACCAGCAGAGCAAACTCCTCTCACTGCTCTCCACGTGGCATCTTTAATAAAA
GAGGCAGGGTTTCCTCCTGGAGTAGTGAATATTGTTCCTGGTTATGGGCCTACAGCAGGGGCAGCCATTT
CTTCTCACATGGATATAGACAAAGTAGCCTTCACAGGATCAACAGAGGTTGGCAAGTTGATCAAAGAAGC
TGCCGGGAAAAGCAATCTGAAGAGGGTGACCCTGGAGCTTGGAGGAAAGAGCCCTTGCATTGTGTTAGCT
GATGCCGACTTGGACAATGCTGTTGAATTTGCACACCATGGGGTATTCTACCACCAGGGCCAGTGTTGTA
TAGCCGCATCCAGGATTTTTGTGGAAGAATCAATTTATGATGAGTTTGTTCGAAGGAGTGTTGAGCGGGC
TAAGAAGTATATCCTTGGAAATCCTCTGACCCCAGGAGTCACTCAAGGCCCTCAGATTGACAAGGAACAA
TATGATAAAATACTTGACCTCATTGAGAGTGGGAAGAAAGAAGGGGCCAAACTGGAATGTGGAGGAGGCC
CGTGGGGGAATAAAGGCTACTTTGTCCAGCCCACAGTGTTCTCTAATGTTACAGATGAGATGCGCATTGC
CAAAGAGGAGATTTTTGGACCAGTGCAGCAAATCATGAAGTTTAAATCTTTAGATGACGTGATCAAAAGA
GCAAACAATACTTTCTATGGCTTATCAGCAGGAGTGTTTACCAAAGACATTGATAAAGCCATAACAATCT
CCTCTGCTCTGCAGGCAGGAACAGTGTGGGTGAATTGCTATGGCGTGGTAAGTGCCCAGTGCCCCTTTGG
TGGATTCAAGATGTCTGGAAATGGAAGAGAACTGGGAGAGTACGGTTTCCATGAATATACAGAGGTCAAA
ACAGTCACAGTGAAAATCTCTCAGAAGAACTCA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC200723 representing NM_000689
Red=Cloning site Green=Tags(s)

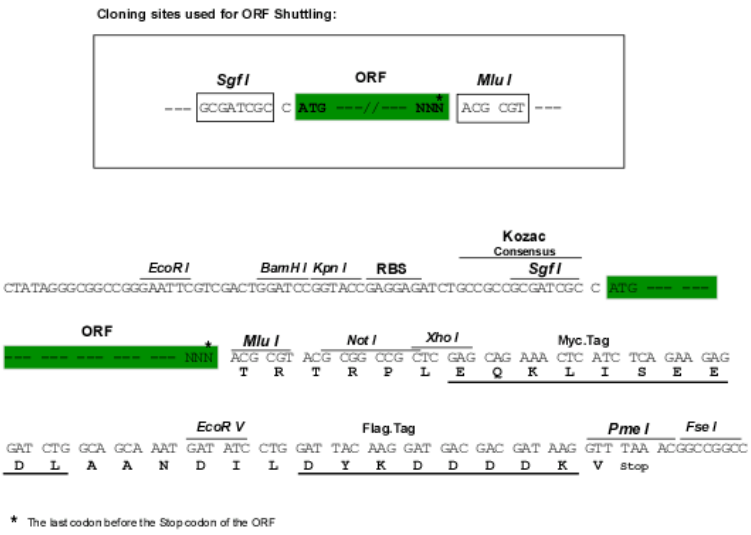
MSSSGTPDLPVLLTDLKIQYTKIFINNEWHDSVSGKKFPVFNPATEEELCQVEEGDKEDVDKAVKAARQA
FQIGSPWRTMDASERGRLLYKLADLIERDRLLLATMESMNGGKLYSNAYLNDLAGCIKTLRYCAGWADKI
QGRTIPIDGNFFTYTRHEPIGVCGQIIPWNFPLVMLIWKIGPALSCGNTVVVKPAEQTPLTALHVASLIK
EAGFPPGVVNIVPGYGPTAGAAISSHMDIDKVAFTGSTEVGKLIKEAAGKSNLKRVTLELGGKSPCIVLA
DADLDNAVEFAHHGVFYHQGQCCIAASRIFVEESIYDEFVRRSVERAKKYILGNPLTPGVTQGPQIDKEQ
YDKILDLIESGKKEGAKLECGGGPWGNKGYFVQPTVFSNVTDEMRIAKEEIFGPVQQIMKFKSLDDVIKR
ANNTFYGLSAGVFTKDIDKAITISSALQAGTVWVNCYGVVSAQCPFGGFKMSGNGRELGEYGFHEYTEVK
TVTVKISQKNS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mg2605_g05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_000689

ORF Size: 1503 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_000689.5

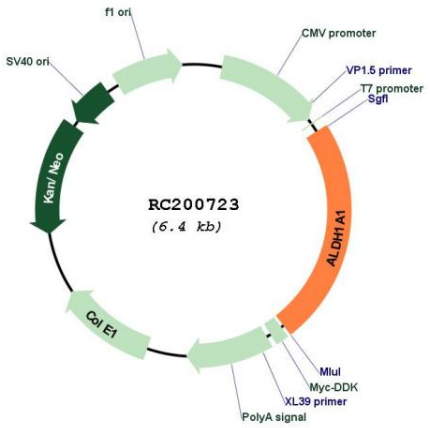
RefSeq Size: 2116 bp

RefSeq ORF: 1506 bp

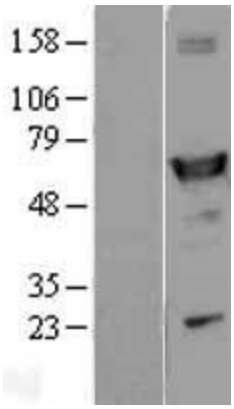
Locus ID: 216

UniProt ID:	P00352
Cytogenetics:	9q21.13
Domains:	aldedh
Protein Families:	Druggable Genome, ES Cell Differentiation/IPS
Protein Pathways:	Metabolic pathways, Retinol metabolism
MW:	54.7 kDa
Gene Summary:	The protein encoded by this gene belongs to the aldehyde dehydrogenase family. Aldehyde dehydrogenase is the next enzyme after alcohol dehydrogenase in the major pathway of alcohol metabolism. There are two major aldehyde dehydrogenase isozymes in the liver, cytosolic and mitochondrial, which are encoded by distinct genes, and can be distinguished by their electrophoretic mobility, kinetic properties, and subcellular localization. This gene encodes the cytosolic isozyme. Studies in mice show that through its role in retinol metabolism, this gene may also be involved in the regulation of the metabolic responses to high-fat diet. [provided by RefSeq, Mar 2011]

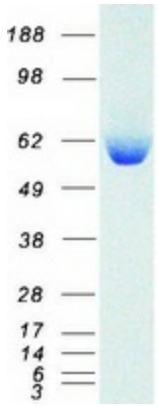
Product images:



Circular map for RC200723



Western blot validation of overexpression lysate (Cat# [LY400230]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC200723 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ALDH1A1 protein (Cat# [TP300723]). The protein was produced from HEK293T cells transfected with ALDH1A1 cDNA clone (Cat# RC200723) using MegaTran 2.0 (Cat# [TT210002]).