

Product datasheet for **RC213720**

ALDH1L1 (NM_012190) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ALDH1L1 (NM_012190) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ALDH1L1
Synonyms:	10-fTHF; 10-FTHFDH; FDH; FTHFD
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide
Sequence:

>RC213720 representing NM_012190
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGCATCGCC**

ATGAAGATTGCAGTGATTGGACAGAGCCTGTTTGCCAGGAAGTTTACTGCCACCTGAGGAAGGAGGGCC
ACGAAGTGGTGGTGTGTTCACTGTTCCAGACAAGGATGGAAAGGCCACCCCTGGGTCTGGAAGCTGA
GAAGGATGGAGTGCCGGTATTCAAGTACTCCCGTGGCGTGCAAAAGGACAGGCTTTGCCTGATGTGGT
GCAAAATACCAGGCTTTGGGGCCGAGCTCAACGTCTGCCCTTCTGCAGCAATTCATCCCATGGAGA
TAATCAGTGCCCCCGGCATGGCTCCATCATCTATCACCCGCTACTGCTCCCTAGGCACCGAGGGCCCTC
GGCCATCAACTGGACCCTCATTACGGAGATAAGAAAGGGGGTTCATCTTCTGGCGGATGATGGT
CTGGACACCGGAGACCTGCTGCTGCAGAAGGAGTGTGAGGTGCTCCGGACGACACCGTGAGCACGCTGT
ACAACCGCTTCTCTTCCCTGAAGGCATCAAAGGGATGGTGCAGGCCGTGAGGCTGATCGCTGAGGGCAA
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GGACAGAGGCCTGTGAACAGAACTGACATTTTTCAACTCAACGCTGAACACTTCAGGCCTGGTGCCCGA
GGGAGACGCTTTGCCATCCCAGGAGCCATCGGCCAGGGGTGGTCACCAAAGCAGGACTCATCCTCTTT
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AAAATGAAGATGTGTACATGGCATCCACCTTTGGGGACTTCATCCAGCTGTTAGTGAGGAAGCTCGAGG
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GAAGTTTGCAGAGCTGACATTAAGGCCGGCATTCCCAAAGTGTGGTTAACGTCCTCCAGGATCTGGC
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ACAAGACCGAGTGGCCGCTCCCTTCGGAGGATCAAACAGTCTGGATTTGGCAAAGATCTAGGAGAGGC
GGCTCTGAACGAGTACCTGCGGGTCAAGACAGTACCTTCGAATAC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC213720 representing NM_012190
 Red=Cloning site Green=Tags(s)

MKIAVIGQSLFGQEVYCHLRKEGHEVVGVTVPDKDGKADPLGLEAEKDGVPVFKYSRWRAGQALPDVV
 AKYQALGAELNVLPFCSQFIPMEIISAPRHGSIYHPSLLPRHRGASAINWTLIHGDKKGGFSIFWADDG
 LDTGDL LLQKECEVLPDDTVSTLYNRFLFPEGIKGMVQAVRLIAEGKAPRLPQPEEGATYEGIQKKETAK
 INWDQPAEAIHNWIRGNDKVPGAWTEACEQKLTFNNTLNTSGLVPEGDALPIPGAHRPGVVTKAGLILF
 GNDDKMLLVKNIQLEDGKMILASNFFKGAASSVLEL TEAELVTAEAVRSFWQRILPKVLEVEDSTDFFKS
 GAASVDVVRLVEEVKELCDGLELENEVYMASTFGDFIQLLVRKLRGHDEEGECSIDYVEMAVNKRTVVM
 PHQLFIGGEFVDAEGAKTSETINPTDGSVICQVSLAQVTDVDKAVAAAKDAFENGRWGKIGARDRGLMY
 RLADLMEHQEELATIEALDAGAVYTLALKTHVGMISIQTFRYFAGWCDKIQGSTIPINQARPNRNLTLTR
 KEPVGVCGIIPWNYPLMMLSWKTAACLAAGNTVVIKPAQVTPLTALKFAELTLKAGIPKGVVNLPGSG
 SLVGQRLSDHPDVRKIGFTGSTEVGKHIMKSCAISNVKKVSELEGGKSPLIIFADCDLNKAVQMGMSSVF
 FNKGENCIAAGRLFVEDSIHDEFVRRVVEVRKMKVGNPLDRDTHGPNHHHLVCLMEYQHGKVEGA
 TLVCGGNQVPRPGFFFEPTVFTDVEDHMFIAKEESFGPVMII SRFADGDLDAVLSRANATEFGLASGVFT
 RDINKALYVSDKLQAGTVFVNTYNKTDVAAPFGGFKQSGFGKDLGEAALNEYLRVKTVTFEY

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6612_g01.zip

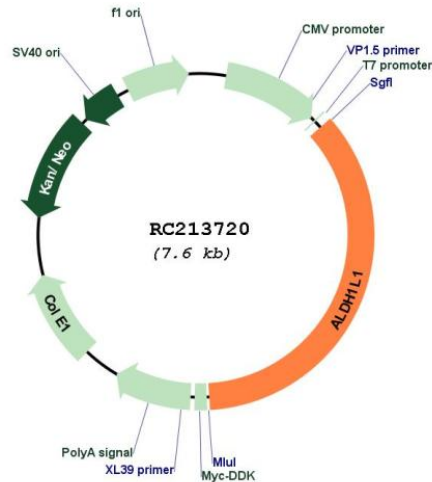
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:


ACCN: NM_012190

ORF Size: 2706 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_012190.4](#)

RefSeq Size: 3125 bp

RefSeq ORF: 2709 bp

Locus ID: 10840

UniProt ID: [O75891](#)

Cytogenetics: 3q21.3

Domains: aldedh, formyl_transf, formyl_trans_C

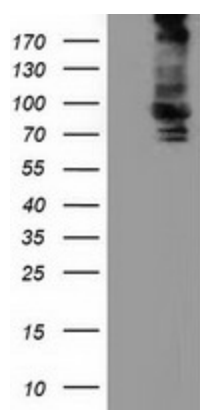
Protein Families: Druggable Genome

Protein Pathways: One carbon pool by folate

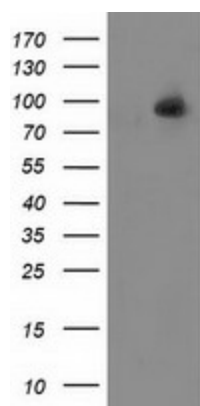
MW: 98.6 kDa

Gene Summary: The protein encoded by this gene catalyzes the conversion of 10-formyltetrahydrofolate, nicotinamide adenine dinucleotide phosphate (NADP+), and water to tetrahydrofolate, NADPH, and carbon dioxide. The encoded protein belongs to the aldehyde dehydrogenase family. Loss of function or expression of this gene is associated with decreased apoptosis, increased cell motility, and cancer progression. There is an antisense transcript that overlaps on the opposite strand with this gene locus. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jun 2012]

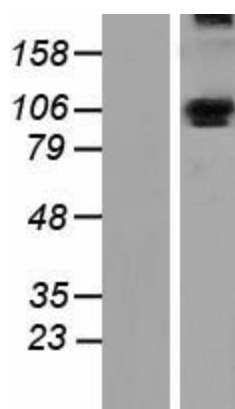
Product images:



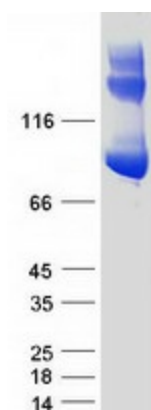
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY ALDH1L1 (Cat# RC213720, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-ALDH1L1 (Cat# [TA501851]). Positive lysates [LY415919] (100ug) and [LC415919] (20ug) can be purchased separately from OriGene.



HEK293T cells were transfected with the pCMV6-ENTRY control (Left lane) or pCMV6-ENTRY ALDH1L1 (RC213720, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-ALDH1L1 ([TA501869]). Positive lysates [LY415919] (100ug) and [LC415919] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY415919]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC213720 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ALDH1L1 protein (Cat# [TP313720]). The protein was produced from HEK293T cells transfected with ALDH1L1 cDNA clone (Cat# RC213720) using MegaTran 2.0 (Cat# [TT210002]).