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# Product datasheet for SC111756

## ALDH1L1 (NM_012190) Human Untagged Clone

### Product data:

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|---|---|
| **Product Type:** | Expression Plasmids |
| **Product Name:** | ALDH1L1 (NM_012190) Human Untagged Clone |
| **Tag:** | Tag Free |
| **Symbol:** | ALDH1L1 |
| **Synonyms:** | 10-fTHF; 10-FTHFDH; FDH; FTHFD |
| **Mammalian Cell Selection:** | None |
| **Vector:** | pCMV6-XL4 |
| **E. coli Selection:** | Ampicillin (100 ug/mL) |

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**Fully Sequenced ORF:**

>OriGene ORF within SC111756 sequence for NM_012190 edited (data generated by NextGen Sequencing)

ATGAAGATTGCAGTGATTGGACAGAGCCTGTTTGGCCAGGAAGTTTACTGCCACCTGAGG
AAGGAGGGCCACGAAGTGGTGGGTGTGTTCACTGTTCCAGACAAGGATGGAAAGGCCGAC
CCCCTGGGTCTGGAAGCTGAGAAGGATGGAGTGCCGGTATTCAAGTACTCCCGGTGGCGT
GCAAAAGGACAGGCTTTGCCTGATGTGGTGGCAAAATACCAGGCTTTGGGGGCCGAGCTC
AACGTCCTGCCCTTCTGCAGCCAATTCATCCCCATGGAGATAATCAGTGCCCCCCGGCAT
GGCTCCATCATCTATCACCCGTCACTGCTCCCTAGGCACCGAGGGGCCTCGGCCATCAAC
TGGACCCTCATTCACGGAGATAAGAAAGGGGGGTTTTCCATCTTCTGGGCGGATGATGGT
CTGGACACCGGAGACCTGCTGCTGCAGAAGGAGTGTGAGGTGCTCCCGGACGACACCGTG
AGCACGCTGTACAACCGCTTCCTCTTCCCTGAAGGCATCAAAGGGATGGTGCAGGCCGTG
AGGCTGATCGCTGAGGGCAAAGCCCCCAGACTCCCTCAGCCTGAGGAAGGAGCCACCTAT
GAGGGGATTCAGAAGAAGGAGACAGCCAAGATCAACTGGGACCAGCCGGCAGAGGCCATT
CACAACTGGATCCGCGGGAACGACAAGGTGCCGGGAGCCTGGACAGAGGCCTGTGAACAG
AAACTGACATTTTTCAACTCAACGCTGAACACTTCAGGCCTGGTGCCCGAGGGAGACGCT
TTGCCCATCCCAGGAGCCCATCGGCCAGGGGTGGTCACCAAAGCAGGACTCATCCTCTTT
GGGAATGATGACAAAATGCTGCTGGTGAAGAATATTCAGCTGGAGGATGGCAAAATGATC
CTGGCCTCGAACTTCTTTAAGGGGGCAGCCAGCAGTGTCCTTGAGCTGACAGAGGCAGAG
CTGGTTACTGCGGAGGCTGTGCGGAGTTTTTGGCAGCGGATCCTCCCCAAAGTCCTGGAG
GTTGAAGACTCCACTGATTTCTTCAAGTCAGGGGCCGCGTCTGTGGACGTTGTGAGGCTG
GTGGAGGAAGTGAAGGAGCTGTGTGATGGCCTGGAGTTAGAAAATGAAGATGTGTACATG
GCATCCACCTTTGGGGACTTCATCCAGCTGTTAGTGAGGAAGCTTCGAGGGCACGATGAG
GAGGGCGAGTGCAGCATTGACTACGTGGAAATGGCAGTGAACAAGCGCACTGTCCGCATG
CCCCACCAGCTCTTCATTGGGGGGGAGTTCGTGGATGCCGAGGGCGCCAAGACCTCTGAG
ACCATCAATCCCACCGATGGAAGTGTCATCTGCCAGGTATCCCTGGCCCAAGTCACCGAC
GTCGACAAGGCAGTGGCCGCAGCCAAGGATGCCTTTGAGAATGGACGGTGGGGGAAGATC
GGTGCGCGGGACCGGGGCCGGCTGATGTACAGGTTGGCAGATCTCATGGAGCAGCACCAG
GAGGAGCTGGCCACCATTGAGGCCCTGGATGCGGGTGCCGTCTACACGCTGGCCCTGAAG
ACCCACGTGGGCATGTCCATCCAGACCTTCCGCTACTTTGCTGGCTGGTGTGACAAGATC
CAGGGCTCCACCATCCCCATCAACCAGGCCAGACCCAACCGCAACCTGACCTTGACCAGG
AAGGAGCCTGTTGGGGTTTGTGGCATCATCATCCCCTGGAACTATCCCCTGATGATGCTG
TCCTGGAAGACAGCTGCCTGCCTGGCTGCCGGGAACACAGTGGTGATCAAGCCTGCTCAG
GTGACCCCACTCACAGCCTTGAAGTTTGCAGAGCTGACATTAAAGGCCGGCATTCCCAAA
GGTGTGGTTAACGTCCTCCCAGGATCTGGCTCCCTGGTCGGCCAGAGACTCTCAGACCAT
CCTGATGTGAGGAAAATCGGGTTCACAGGCTCCACAGAGGTGGGCAAGCACATCATGAAA
AGCTGTGCCATAAGTAACGTGAAGAAGGTGTCCCTGGAACTGGGCGGGAAGTCACCCCTC
ATCATCTTTGCTGACTGTGACCTCAACAAGGCTGTGCAGATGGGGATGAGTTCTGTTTTC
TTCAACAAAGGAGAGAATTGCATTGCAGCAGGCCGACTCTTTGTGGAGGACTCCATTCAT
GATGAGTTCGTGCGGAGAGTGGTAGAAGAGGTGCGGAAGATGAAGGTGGGCAACCCGCTG
GACAGGGACACCGACCACGGGCCGCAGAATCACCATGCCCACCTTGTGAAGCTGATGGAG
TACTGCCAGCATGGCGTGAAGGAAGGGGCCACACTGGTCTGCGGCGGGAATCAGGTCCCT
CGGCCAGGGTTCTTCTTTGAGCCAACTGTTTTCACAGACGTGGAAGACCACATGTTCATA
GCCAAGGAGGAGTCCTTCGGGCCTGTCATGATCATCTCTCGGTTTGCTGATGGGGACTTG
GATGCCGTGCTGTCTCGGGCCAATGCCACGGAATTTGGCCTGGCTTCTGGTGTCTTCACC
AGGGACATCAACAAGGCCCTGTATGTCAGTGACAAGCTCCAGGCAGGCACTGTGTTTGTC
AACACGTACAACAAGACCGACGTGGCCGCTCCCTTCGGAGGATTCAAACAGTCTGGATTT
GGCAAAGATCTAGGAGAGGCGGCTCTGAACGAGTACCTGCGGGTCAAGACAGTGACCTTC
GAATACTGA

Clone variation with respect to NM_012190.2
988 g=>t;1185 g=>t;1192 g=>c;1441 a=>g

**5' Read Nucleotide Sequence:**

>OriGene 5' read for NM_012190 unedited
TTCGGNCCTCAGCTGCGGCTCATTTAAGTCTAACCTGCCCGGGACGCCCGCACCAACTCC
TGCGCGCGGTCCTTCCAACCCTCCTGCTACCATGAAGATGCAGTGATTGGACAACCTGTT
TGGCCAGAATTTACTGCCACCTGAGAAGAGGCCACGAATGTNGGGTAGNTCACTGTTCCA
TACAAGGATTGAAAGGCCGACCCCCTGGGTCTGGAAGCTGAGAAGGATGGAGTGCCGGTA
TTCAAGTACTCCCTGTGGCGTGCAAAAGGACAGGCTTTGCCTGATGTGGTGGCAAAATAC
CAGGCTTTGGGGGCCGAGCTCAACGTCCTGCCCTTCTGCAGCCAATTCATCCCCATGGAG
ATAATCAGTGCCCCCCGGCATGGCTCCATCATCTATCACCCGTCACTGCTCCCTAGGCAC
CGAGGGGCCTCGGCCATCAACTGGACCCTCATTCACGGAGATAAGAAAGGGGGGTTTTCC
ATCTTCTGGGCGGATGATGGTCTGGACACCGGAGACCTGCTGCTGCAGAAAGAGTGTGAG
GTGCTCCCGGACGACACCGTGAGCACGCTGTACAACCGCTTCCTCTTCCCTGAGGCATCA
AAGGGATGGTGCAGGCCGTGAGGCTGATCCCTGANGCAAAACCCCCAAACTCCCTCACCC
TGAGGAAGGAACACCTATGAGGGGATTCAGAAAAAGGAGAACGCCAGAATCACTTGGGAC
CAGCCCGGCAGAGCCATTTCCAACTTGGATCCGGGGGAACAAACAAGTGCCCGGGAGCCT
GGGCAAAAGGCCTGTTGAACAGAAACTGGAATTNTTTCAACTTAACGCCTTGAACATTCA
AGGCCTGGGCCCCCGAGGGAAACCCTTTGCCCATCCCAGGAACCCCTCCGCCCCAGGGTG
GTC

**3' Read Nucleotide Sequence:**

>OriGene 3' read for NM_012190 unedited
ACTCTGGACCGCGGCNCGCAATCTANGATNCGGTTTTTTTTTTTTTTTTTTTTTTTTCT
CTTCATAAGCTTTATTCTCCCTGGGAGGGGCACACCTCACCCAGCCAAGGGCTGCTTCTG
ACTGGACAGAGGGCGTCCAAAATGCAAACATGGTGTGCAGGCAGGAGGGCTTCCACTAGC
CCCCCAGGTGGGAGGTGCTGTGCACCCAGGCTCAAGAGGGAGGGGGCCCCAGCCACGAGG
GAGGGGCAGGGACTTTCTTCTCACAAAGACCTTTCTTCAGTATTCGAAGGTCACTGTCTT
GACCCGCAGGTACTCGTTCAAAGCCGCCTCTCCTAAATCTTTGCCAAATCCAGACTGTTT
GAATCCTCCGAAGGGAGCGGCCACGTCGGTCTTGTTGTACGTGTTGACAAACACAGTGCC
TGCCTGGAGCTTGTCACTGACATACAGGGCCTTGTTGATGTCCCTGGTGAAGACACCAGA
AGCCAGGCCAAATTCCGTGGCATTGGCCCGAGACAGCACGGCATCCAAGTCCCCATCAGC
AAACCGAGAGATGATCATGACAGGCCCGAAGGACTCCTCCTTGGCTATGAACATGTGGTC
TTCCACGTCTGTGAAAACAGTTGGCTCAAAGAAGAACCCTGGCCGAGGGACCTGATTCCC
GCCGCAGACCAGTGTGGCCCCTTCCTTCACGCCATGCTGGCAGTACTCCATCAGCTTCAC
AAGGTGGGCATGGTGATTCTGCGGCCCCGTGGTCGGTGTCCCTGTCCAGCGGGGTGCCCA
CCTTCATCTTCCGCACCTTTNTACCACTCTNCGCACGAACNATCATGAATGGAGTCCTNC
ACAAAGAGTCGCCTGCTGCATGCAATCTCTCCTTTGTTGAAGAAACAGACTCATCCCATC
TGCACANCTTGGTGAGTCACAGTCAGCAAAATGATGAGGGTGACTTCCCGCCCAGTCAGG
GACACTTCTNACAGTACTT

**Restriction Sites:** NotI-NotI

**ACCN:** NM_012190

**Insert Size:** 3100 bp

**OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

**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).

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|---|---|
| **Reconstitution Method:** | 1. Centrifuge at 5,000xg for 5min.<br>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.<br>3. Close the tube and incubate for 10 minutes at room temperature.<br>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.<br>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_012190.2, NP_036322.2 |
| **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 |
| **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]<br>Transcript Variant: This variant (2) contains a distinct 5' UTR, lacks an in-frame portion of the 5' coding region, and initiates translation at an alternate in-frame downstream start codon, compared to variant 1. The resulting isoform (2) has a shorter N-terminus, compared to isoform 1. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments. |