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Product datasheet for SC109971

ALDH4A1 (NM_003748) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ALDH4A1 (NM_003748) Human Untagged Clone
Tag:	Tag Free
Symbol:	ALDH4A1
Synonyms:	ALDH4; P5CD; P5CDh
Mammalian Cell Selection:	None
Vector:	pCMV6-XL6
E. coli Selection:	Ampicillin (100 ug/mL)

View online »

Fully Sequenced ORF:

>NCBI ORF sequence for NM_003748, the custom clone sequence may differ by one or more nucleotides

ATGCTGCTGCCGGCGCCCGCGCTCCGCCGCGCCCTGCTGTCCCGCCCCTGGACCGGGGCCGGCCTGCGGT
GGAAGCACACCTCCTCCCTGAAGGTGGCCAACGAGCCCGTCTTAGCCTTCACGCAGGGCAGCCCTGAGCG
AGATGCCCTGCAAAAGGCCTTGAAGGACCTGAAGGGCCGGATGGAAGCCATCCCATGCGTGGTGGGGGAT
GAGGAGGTGTGGACGTCGGACGTGCAGTACCAAGTGTCGCCTTTTAACCATGGACATAAGGTGGCCAAGT
TCTGTTATGCAGACAAGAGCCTGCTCAACAAAGCCATTGAGGCTGCCCTGGCTGCCCGGAAAGAGTGGGA
CCTGAAGCCTATTGCAGACCGGGCCCAGATCTTCCTGAAGGCGGCAGACATGCTGAGTGGGCCGCGCAGG
GCTGAGATCCTCGCCAAGACCATGGTGGGACAGGGTAAGACCGTGATCCAAGCGGAGATTGACGCTGCAG
CGGAACTCATCGACTTCTTCCGGTTCAATGCCAAGTATGCGGTGGAGCTGGAGGGGCAGCAGCCCATCAG
CGTGCCCCCGAGCACCAACAGCACGGTGTACCGGGGTCTGGAGGGCTTCGTGGCGGCCATCTCGCCCTTT
AACTTCACTGCAATCGGCGGCAACCTGGCGGGGGCACCGGCCCTGATGGGCAACGTGGTCCTATGGAAGC
CCAGTGACACTGCCATGCTGGCCAGCTATGCTGTCTACCGCATCCTTCGGGAGGCTGGCCTGCCCCCCAA
CATCATCCAGTTTGTGCCAGCTGATGGGCCCCTATTTGGGGACACTGTCACCAGCTCAGAGCACCTCTGT
GGCATCAACTTCACAGGCAGTGTGCCCACCTTCAAACACCTGTGGAAGCAGGTGGCCCAGAACCTGGACC
GGTTCCACACCTTCCCACGCCTGGCTGGAGAGTGCGGCGGAAAGAACTTCCACTTCGTGCACCGCTCGGC
CGACGTGGAGAGCGTGGTGAGCGGGACCCTCCGCTCAGCCTTCGAGTACGGTGGCCAGAAGTGTTCCGCG
TGCTCGCGTCTCTACGTGCCGCACTCGCTGTGGCCGCAGATCAAAGGGCGGCTGCTGGAGGAGCACAGTC
GGATCAAAGTGGGCGACCCTGCAGAGGATTTTGGGACCTTCTTCTCTGCAGTGATTGATGCCAAGTCCTT
TGCCCGTATCAAGAAGTGGCTGGAGCACGCACGCTCCTCACCCAGCCTCACCATCCTGGCCGGGGGCAAG
TGTGATGACTCCGTGGGCTACTTTGTGGAGCCCTGCATCGTGGAGAGCAAGGACCCTCAGGAGCCCATCA
TGAAGGAGGAGATCTTCGGGCCTGTACTGTCTGTGTACGTCTACCCGGATGACAAGTACAAGGAGACGCT
GCAGCTGGTTGACAGCACCACCAGCTATGGCCTCACGGGGGCAGTGTTCTCCCAGGATAAGGACGTCGTG
CAGGAGGCCACAAAGGTGCTGAGGAATGCTGCCGGCAACTTCTACATCAACGACAAGTCCACTGGCTCGA
TAGTGGGCCAGCAGCCCTTTGGGGGGGCCCGAGCCTCTGGAACCAATGACAAGCCAGGGGGCCCACACTA
CATCCTGCGCTGGACGTCGCCGCAGGTCATCAAGGAGACACATAAGCCCCTGGGGGACTGGAGCTACGCG
TACATGCAGTGA

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_003748 unedited
NTTTACACCGCCCGTTGNCGCAAAGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAG
CAGAGCTCATTTAGGTGACACTATAGAATACAAGCTACTTGTTCTTTTTGCAGCGGCCGC
GAATTCGGCACGAGGCCGAGATGCTGCTGCCGGCGCCCGCGCTCCGCCGCGCCCTGCTGT
CCCGCCCCTGGACCGGGGCCGGCCTGCGGTGGAAGCACACCTCCTCCCTGAAGGTGGCCA
ACGAGCCCGTCTTAGCCTTCACGCAGGGCAGCCCTGAGCGAGATGCCCTGCAAAAGGCCT
TGAAGGACCTGAAGGGCCGGATGGAAGCCATCCCATGCGTGGTGGGGGATGAGGAGGTGT
GGACGTCGGACGTGCAGTACCAAGTGTCGCCTTTTAACCATGGACATAAGGTGGCCAAGT
TCTGTTATGCAGACAAGAGCCTGCTCAACAAAGCCATTGAGGCTGCCCTGGCTGCCCGGA
AAGAGTGGGACCTGAAGCCTATTGCAGACCGGGCCCAGATCTTCCTGAAGGCGGCAGACA
TGCTGAGTGGGCCGCGCAGGGCTGAGATCCTCGCCAAGACCCTGGTGGGACAGGGTAAGA
CCGCGATCCAAGCGGAGATTGACGCTGCAGCGGAACTCATTGACTTCTTTCGGCTCAATG
CCAGTATGCCGGGGAGCCTGAAGGGCCCAATCCCCTCCACGCGCCCCCGACACCACCAGA
ACGGGGACCCCGGGGGTTGAAGCCCCCCTCCCCCTTCTCTCTCCCTCACCTTCCCCCCTC
TCCGGTCCTCCTCTCCGCGCCCCCTTCCCCCTCCTCCCCTCCCCCACCACCCCCCTCCCC
TACCTTCTTCCTTCCTCTCTTTCCTCATTACTCCTCCTCTCTCTCCTACCCCCCTACT
ACTTCACATCACAC

3' Read Nucleotide Sequence:

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>OriGene 3' read for NM_003748 unedited
GGATTCGTGTANGTTGCCGCACTCGANGTCGAGTTATAACCTTTTTTTTTTTTTTTTTTT
TTTTTTTTTTTTTTATTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTCTTTTTTTTTAAAA
AACAGGCCTTTTATTGGGGGGGATTTGAACAAATCCCATTGCCCCCTCACAGGGGAAAAC
CCGTAAAACTAAAAATACTCCAGCCTGGGCCCCCTTTTTTTCACCTGCCCCGGCCCCTTT
TGGGAAAAGACCCATTTCCCGGAAGGGCCCAAAACCCCCACCCAGCCCAGTTGGGACCAG
CCCCCCCCCCCTTCCATGGGCCAGTGGCCCTTGGGGAATGGCCCCCCCCCCTCCGGGGGG
GGGCCCCTGCCGGCCTCCTGGAAGAAAACCCAACACTTTTACAGGCCCCTAAAAACCCTC
CCTGAAAATCATGCCTTACAAATTTTTGACCCCTCAAAATCCAAGCAGGAGGCATTTGGG
GGAAGAATCGGGGGCACAAATTGGCTGCGTCAAAAAAAAAAATGGGCCACTGAGGGACTGG
GCCCACAAAACCACTCCCAGGCAGAAGAAGATTTTAAAGGGAAAGTCCTTGGGCCATGCT
GACAAACCCAAAGGCCGGCCTTTGGGGGCTGGGAAAAAGGAAGGCCCATTTTTGCCTTGG
CCTGGGTCACCTTGGGACAAGGGGGGGGTGACCTCCCTGGGGGGAAAATCCCAAACCCCC
GGAACCGGGCTCTTAAAGAGGGGAGGGCCCTTCCACGGTGGGGCCCCGGGAGATCCAAAG
GGGGAGGGTTGTCTCTATGAACAAAGACCCCCTCCAAGGGTTTTCCCAAATATACGGGCC
CTAAACCGGGAGGGCCCCTCCCTCCCCCCCCCCCCTTGGGAGGGGGGGCCTCCAAGGGCCC
CCACAAACCCCGG
```

Restriction Sites: NotI-NotI

ACCN: NM_003748

Insert Size: 3000 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).

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_003748.2, NP_003739.2

RefSeq Size: 3160 bp

RefSeq ORF: 1692 bp

Locus ID: 8659

UniProt ID: P30038

Cytogenetics: 1p36.13

Domains: aldedh

Protein Families:	Druggable Genome
Protein Pathways:	Alanine, aspartate and glutamate metabolism, Arginine and proline metabolism, Metabolic pathways
Gene Summary:	This protein belongs to the aldehyde dehydrogenase family of proteins. This enzyme is a mitochondrial matrix NAD-dependent dehydrogenase which catalyzes the second step of the proline degradation pathway, converting pyrroline-5-carboxylate to glutamate. Deficiency of this enzyme is associated with type II hyperprolinemia, an autosomal recessive disorder characterized by accumulation of delta-1-pyrroline-5-carboxylate (P5C) and proline. Alternatively spliced transcript variants encoding different isoforms have been identified for this gene. [provided by RefSeq, Jun 2009] Transcript Variant: This variant (P5CDhL) represents the longest transcript. Both variants P5CDhL and P5CDhS encode the same protein (isoform a).