

## Product datasheet for **SC109908**

### ALDH5A1 (NM\_001080) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	ALDH5A1 (NM_001080) Human Untagged Clone
Tag:	Tag Free
Symbol:	ALDH5A1
Synonyms:	SSADH; SSDH
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL4</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)



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**Fully Sequenced ORF:** >OriGene ORF within SC109908 sequence for NM\_001080 edited (data generated by NextGen Sequencing)

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ATGGCGACCTGCATTTGGCTGCGGAGCTGTGGGGCCCGGCGCCTCGGGTCGACGTTTCCA
GGCTGCCGCTCCGCCCCGCGCCGGCGGCTGGTCCCTGCCCTCCGGGCTGCGCCCGGC
CCGGCCAGCTCCGCTGTACGCTGGGCGCCTGGCGGGCTCTCTGCGGCGCTGTGCGC
ACCGACAGCTTCGTGGGCGGCCGCTGGCTCCCGGCCGCCACCTTCCCGTGCAAGAC
CCGGCCAGCGGCGCCGCTGTGGCATGGTAGCCGACTGCGGGGTGCGAGAGGCCCGGCC
GCCGTGCCGCTGCCTACGAGGCTTTCTGCCGCTGGAGGAGGTCTCCGCCAAGGAGAGG
AGTTCACTACTTCGGAAGTGGTACAATTTAATGATACAAAATAAGGATGACCTTGCCAGA
ATAATCACAGCTGAAAGTGAAAGCCACTGAAGGAGGCACATGGAGAAATTCTCTATTCC
GCCTTTTTCTAGAGTGGTTCTCTGAGGAAGCCCGCGTGTACGGAGACATTATCTAC
ACCCCGCAAAGGACAGGCGGCCCTGGTCTCAAGCAGCCATAGGCGTGGCTGCAGTC
ATCACCCGTGGAATTTCCCAAGTCCATGATCACCCGGAAGGTGGGGGCCCGCTGGCA
GCCGGCTGTACTGCTGTGGTGAAGCCTGCCGAAGACACGCCCTTCTCCGCCCTGGCCCTG
GCTGAGCTTGCAAGCCAGGCTGGGATTCCTTCAGGTGTATACAATGTTATTCCCTGTTCT
CGAAAGAATGCCAAGGAAGTAGGGGAGGCAATTTGTACTGATCCTCTGGTGTCCAAAATT
TCCTTTACTGGTTCAACAACACAGGAAAGATCCTGTTGCACCACGCAGCAAACCTCTGTG
AAAAGGTCTCTATGGAGCTGGGCGCCTTGCTCCATTTATAGTATTTGACAGTGCCAAAC
GTGGACCAGGCTGTAGCAGGGCCATGGCATCTAAATTTAGGAACACTGGACAGACTTGT
GTTTGCTCAAACCAATTTTGGTGCAAAGGGGCATCCATGATGCCTTTGTAAAAGCATTG
GCCGAGCCATGAAGAAGAACCTGCGCGTAGGTAATGGATTTGAGGAAGGAACTACTCAG
GGCCCATTAATTAATGAAAAAGCGGTAGAAAAGGTGGAGAAACAGGTGAATGATGCCGTT
TCTAAAGTGGCCACCGTTGTGACAGGTGGAACACGACCAACTTGGAAAAAATTTCTTT
GAGCCTACCCTGCTGTGCAATGTACCCAGGACATGCTGTGCACTCATGAAGAGACTTTC
GGCCTCTGGCACCAGTTATCAAGTTCGATACAGAGGAGGAGGCTATAGCAATCGTAAC
GCAGCTGATGTTGGGTTAGCAGGTTATTTTTACTCTCAAGACCCAGCCAGATCTGGAGA
GTGGCAGAGCAGCTGGAAGTGGGCATGTTGGCGTCAACGAAGGATTAATTTCTCTGTG
GAGTGCCCTTTTGGTGGAGTGAAGCAGTCCGGCCTTGGGCGAGAGGGGTCCAAGTATGGC
ATTGATGAGTATCTGGAACCAAGTATGTGTGTTACGGGGGCTTGTAG
    
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Clone variation with respect to NM\_001080.3  
538 c=>t

**5' Read Nucleotide Sequence:**

>OriGene 5' read for NM\_001080 unedited

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TCATAATTTGTAATACGAACTACTATAGGGCGGCCGGAATTCGCACCAGCGGGCCATG
GCGACCTGCATTTGGCTGCGGAGCTGTGGGGCCCGCGCCTCGGGTCGACGTTTCCAGGC
TGCCGCTCCGCCCCCGCGCCGGCGCCTGGTCCCTGCCCTCCGGGCTGCGCCCGGCCCG
GCCCAGCTCCGCTGCTACGCTGGGCGCCTGGCGGGCCTCTCTGCGGCGCTGCTGCCACCC
GACAGCTTCGTGGGCGGCCGCTGGCTCCCGGCCCGCCACCTTCCCGTGCAAGACCCG
GCCAGCGGCGCCGCTCTGGGCATGGTAGCCGACTGCGGGGTGCGAGAGGCCCGCGCCGCC
GTGCGCGCTGCCACGAGGCTTTCTGCCGCTGGAGGGAGGTCTCCGCCAAGGAGAGGAGT
TCATTACTTCGGAAGTGGTACAATTTAATGATACAAAATAAGGATGACCTTGCCAGAATA
ATCACAGCTGAAAGTGAAAGCCACTGAAGGAGGCACATGGAGAAATTCTCTATTCCGCC
TTTTTCTAGAGTGGTTCTCTGAGGAAGCCCGCGTGTACGGAGACATTATCTACACC
CCGGCAAAGGACAGGCGGCCCTGGTCTCAAGCAGCCATAGGCGTGGCTGCAGTCATC
ACCCCGTGAATTTCCCAAGTGCATGATCACCCGGAAGGTGGGGCCCGCCTGGCAGCC
GGCTGTACTGCTGTGGTGAAGCCTGCCGAAGACACGCCCTTCTCCGCCCTGGCCCTGGCT
GAGCTTGCAAGCCAGGCTGGGATTCCTTCAGTGTATACAATGTTATTCCCTGNTCTCG
AAAGAATGCCAAGGAAGTANGGGAGGGCATTGTACTGATCCTCTGGTGTCCAAAATTTCT
CTACTGGGGTCACACTACAGGAAAGATA
    
```

**Restriction Sites:** NotI-NotI

<b>ACCN:</b>	NM_001080
<b>Insert Size:</b>	1500 bp
<b>OTI Disclaimer:</b>	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).
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>RefSeq:</b>	<u><a href="#">NM_001080.3</a></u> , <u><a href="#">NP_001071.1</a></u>
<b>RefSeq Size:</b>	5131 bp
<b>RefSeq ORF:</b>	1608 bp
<b>Locus ID:</b>	7915
<b>UniProt ID:</b>	<u><a href="#">P51649</a></u>
<b>Cytogenetics:</b>	6p22.3
<b>Domains:</b>	aldehyd
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Alanine, aspartate and glutamate metabolism, Butanoate metabolism, Metabolic pathways
<b>Gene Summary:</b>	<p>This protein belongs to the aldehyde dehydrogenase family of proteins. This gene encodes a mitochondrial NAD(+)-dependent succinic semialdehyde dehydrogenase. A deficiency of this enzyme, known as 4-hydroxybutyricaciduria, is a rare inborn error in the metabolism of the neurotransmitter 4-aminobutyric acid (GABA). In response to the defect, physiologic fluids from patients accumulate GHB, a compound with numerous neuromodulatory properties. Two transcript variants encoding distinct isoforms have been identified for this gene. [provided by RefSeq, Jul 2008]</p> <p>Transcript Variant: This variant (2) lacks an in-frame segment of the coding region, compared to variant 1. It encodes a shorter isoform (2), that is missing an internal segment compared to isoform 1.</p>