# Recombinant Human ALDH2, His-tagged

**Cat. No.** ALDH2-27039TH **Lot. No.** (See product label)

## SPECIFICATION

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| **Product Overview** | Recombinant fragment, corresponding to amino acids 153-509 of Human ALDH2 with an N terminal His tag. mol wt: 41 kDa; |
| **Species** | Human |
| **Source** | E.coli |
| **ProteinLength** | 153-509 a.a. |
| **Description** | This protein belongs to the aldehyde dehydrogenase family of proteins. Aldehyde dehydrogenase is the second enzyme of the major oxidative pathway of alcohol metabolism. Two major liver isoforms of aldehyde dehydrogenase, cytosolic and mitochondrial, can be distinguished by their electrophoretic mobilities, kinetic properties, and subcellular localizations. Most Caucasians have two major isozymes, while approximately 50% of Orientals have the cytosolic isozyme but not the mitochondrial isozyme. A remarkably higher frequency of acute alcohol intoxication among Orientals than among Caucasians could be related to the absence of a catalytically active form of the mitochondrial isozyme. The increased exposure to acetaldehyde in individuals with the catalytically inactive form may also confer greater susceptibility to many types of cancer. This gene encodes a mitochondrial isoform, which has a low Km for acetaldehydes, and is localized in mitochondrial matrix. Alternative splicing results in multiple transcript variants encoding distinct isoforms. |
| **Conjugation** | HIS |

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| **Form** | Lyophilised:Reconstitute with 73 µl aqua dest. |
| **Storage buffer** | Preservative: NoneConstituents: 0.5% Trehalose, 6M Urea, 100mM Sodium phosphate, 10mM Sodium chloride, pH 4.5 |
| **Storage** | Shipped at 4°C. Upon delivery aliquot and store at -80oC. Avoid freeze / thaw cycles. |
| **Sequences of amino acids** | ADKYHGKTIPIDGDFFSYTRHEPVGVCGQIIPWNFPLLMQ AWKLGPALATGNVVVM KVAEQTPLTALYVANLIKEAGF PPGVVNIVPGFGPTAGAAIASHEDVDKVAFTGSTEI GR VIQVAAGSSNLKRVTLELGGKSPNIIMSDADMDWAVEQAH FALFFNQGQCCCA GSRTFVQEDIYDEFVERSVARAKSR VVGNPFDSKTEQGPQVDETQFKKILGYINTG KQEGAKL LCGGGIAADRGYFIQPTVFGDVQDGMTIAKEEIFGPVMQILKFKTIEEVVG RANNSTYGLAAAVFTKDLDKANYLSQA LQAGTVWVNCYDVFGAQSPFGGYKMSG SGRELGEYGLQ AYTEVKTVT |
| **Sequence Similarities** | Belongs to the aldehyde dehydrogenase family. |

## GENE INFORMATION

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| **Gene Name** | ALDH2 aldehyde dehydrogenase 2 family (mitochondrial) [ Homo sapiens ] |
| **Official Symbol** | ALDH2 |
| **Synonyms** | ALDH2; aldehyde dehydrogenase 2 family (mitochondrial); aldehyde dehydrogenase, mitochondrial; |
| **Gene ID** | 217 |
| **mRNA Refseq** | NM_000690 |

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| **Protein Refseq** | NP_000681 |
| **Uniprot ID** | P05091 |
| **Chromosome Location** | 12q24.12 |
| **Pathway** | Arginine and proline metabolism, organism-specific biosystem; Arginine and proline metabolism, conserved biosystem; Ascorbate and aldarate metabolism, organism-specific biosystem; Ascorbate and aldarate metabolism, conserved biosystem; Biological oxidations, organism-specific biosystem; |
| **Function** | aldehyde dehydrogenase (NAD) activity; aldehyde dehydrogenase [NAD(P)+] activity; electron carrier activity; oxidoreductase activity; |

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