

Recombinant Human ALDH2

Cat. No. ALDH2-27037TH **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant full length mature Human ALDH2; amino acids 18-517 , 54.5kDa.
Species	Human
Source	E.coli
ProteinLength	18-517 a.a.
Description	This protein belongs to the aldehyde dehydrogenase family of proteins. Two major liver isoforms of aldehyde dehydrogenase, cytosolic and mitochondrial, can be distinguished by their electrophoretic mobilities, kinetic properties, and subcellular localizations. A remarkably high 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 K_m for acetaldehydes, and is localized in mitochondrial matrix. Alternative splicing results in multiple transcript variants encoding distinct isoforms.
Biologicalactivity	Specific activity is < 0.2 units/ml, and was obtained by measuring the increase of NADP in absorbance at 340 nm resulting from the reduction of NAD. One unit will oxidize 1.0 umole of acetaldehyde to acetic acid per minute at pH 8.0 at 25C in the presence of beta-NAD, potassium and thiols.
Formulation	Liquid.

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

Purity	>90% by SDS-PAGE
Sequences of amino acids	MSAAATQAVP APNQQPEVFC NQIFINNEWH DAVSRKTFPT VNPSTGEVIC QVAEGDKEDV DKAVKAARAA FQLGSPWRRM DASHRGRLN RLADLIERDR TYLAALETLD NGKPYVISY L VDLDMLKCL RYYAGWADKY HGKTIPIDGD FFSYTRHEPV GVCQGIIIPWN FPLLMQAWKL GPALATGNVV VMKVAEQTPL TALYVANLIK EAGFPPGVVN IVPFGGPTAG AAIASHE DVD KVAFTGSTEI GRVIQVAAGS SNLKRVLTLEL GKGSPNIIMS DADMDWAVEQ AHFALFFNQG QCCCAGSRTF VQEDIYDEFV ERSVARAKSR VVGPNFDSKT EQGPQVDETQ FKKIL GYINT GKQEGAKLLC GGGIAADRGY FIQPTVFGDV QDGMTIAKEE IFGPVMQILK FKTIIEVVGR ANNSTYGLAA AVFTKDLDKA NYLSQALQAG TVWVNCYDVF GAQSPFGGYK MSG SGRELGE YGLQAYTEVK TVTVKVPQKN S
Sequence Similarities	Belongs to the aldehyde dehydrogenase family.
Storage buffer	Preservative: None Constituents: 10% Glycerol, 20mM Tris HCl, 1mM EDTA, 1mM DTT, pH 7.5
Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Official Symbol	ALDH2
Full Length	Full L.
GENE INFORMATION	
Gene Name	ALDH2 aldehyde dehydrogenase 2 family (mitochondrial) [Homo sapiens]
Synonyms	ALDH2; aldehyde dehydrogenase 2 family (mitochondrial); aldehyde dehydrogenase, mitochondrial; ALDM; ALDHI; ALDH-E2

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Gene ID	217
mRNA Refseq	NM_000690
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
PDBrendering based on 1a4z.	