

Product datasheet for **AR09142PU-L**

ALDH2 (18-517) Human Protein

Product data:

Product Type:	Recombinant Proteins
Description:	ALDH2 (18-517) human recombinant protein, 0.5 mg
Species:	Human
Expression Host:	E. coli
Expression cDNA Clone or AA Sequence:	MSAAATQAVP APNQQPEVFC NQIFINNEWH DAVSRKTFPT VNPSTGEVIC QVAEGDKEDV DKAVKAARAA FQLGSPWRRM DASHRGRLLN RLADLIERDR TYLAALETLD NGKPYVISYL VDLDMLKCL RYYAGWADKY HGKTIPIDGD FFSYTRHEPV GVCQGIIIPWN FPLLMQAWKL GPALATGNVW VMKVAEQTPL TALYVANLIK EAGFPPGVVN IVPGFPTAG AAIASHEDVD KVAFTGSTEI GRVIQVAAGS SNLKRVTLEL GKGSPNIIMS DADMDWAVEQ AHFALFFNQG QCCCAGSRTF VQEDIYDEFV ERSVARAKSR VVGNPFDSKT EQGPQVDETQ FKKILGYINT GKQEGAKLLC GGGIAADRGY FIQPTVFGDV QDGMTIAKEE IFGPVMQILK FKTIEEVVGR ANNSTYGLAA AVFTKDLDKA NYLSQALQAG TVWVNCYDVF GAQSPFGGYK MSGSGRELGE YGLQAYTEVK TVTVKVPQKN S
Predicted MW:	54.5 kDa
Concentration:	lot specific
Purity:	>90% by SDS - PAGE
Buffer:	Presentation State: Purified State: Liquid purified protein Buffer System: 20 mM Tris-HCl buffer (pH 7.5) containing 1 mM DTT, 1 mM EDTA, 10% Glycerol
Bioactivity:	Specific: Specific activity is > 250 pmol/min/ug, and was obtained by measuring the increase of NADH in absorbance at 340 nm resulting from the reduction of NAD at pH 8.0 at 25°C.
Endotoxin:	< 1.0 EU per 1 µg of protein (determined by LAL method)
Preparation:	Liquid purified protein



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Applications:	Protocol: <i>Activity Assay:</i> <ol style="list-style-type: none">1. Prepare a 180 µl assay buffer into a suitable container: The concentrations are 100 mM Tris-HCl (pH 8.0), 2 mM beta-NAD, 100 mM potassium chloride, 10 mM 2-mercaptoethanol, 2 mM acetaldehyde2. Equilibrate to 25°C and monitor the A340nm until value is constant using a spectrophotometer.3. Add 20 ul of recombinant ALDH2 protein 400ug/ml in assay buffer.4. Record the increase in A340nm for 5 minutes.
Protein Description:	Recombinant Human ALDH2 protein was expressed in <i>E.coli</i> and purified by using conventional chromatography techniques.
Storage:	Store undiluted at 2-8°C for up to two weeks or (in aliquots) at -20°C or -70°C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
RefSeq:	NP_000681
Locus ID:	217
UniProt ID:	P05091
Cytogenetics:	12q24.12
Synonyms:	Aldehyde dehydrogenase mitochondrial, ALDH class 2, ALDHI, ALDH-E2, ALDM
Summary:	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 East Asians have the cytosolic isozyme but not the mitochondrial isozyme. A remarkably higher frequency of acute alcohol intoxication among East Asians 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.[provided by RefSeq, Nov 2016]
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Protein Pathways:

Arginine and proline metabolism, Ascorbate and aldarate metabolism, beta-Alanine metabolism, Butanoate metabolism, Fatty acid metabolism, Glycerolipid metabolism, Glycolysis / Gluconeogenesis, Histidine metabolism, Limonene and pinene degradation, Lysine degradation, Metabolic pathways, Propanoate metabolism, Pyruvate metabolism, Tryptophan metabolism, Valine, leucine and isoleucine degradation

Product images: