

## ALDH2 Human

### Aldehyde Dehydrogenase Human Recombinant

Catalogue Number	ENZ-401
Synonyms	ALDM, ALDH1, ALDH-E2, MGC1806, ALDH2, Aldehyde dehydrogenase mitochondrial, ALDH class 2.
Introduction	ALDH2 is part of the aldehyde dehydrogenase family of proteins which catalyze the chemical transformation from acetaldehyde to acetic acid. ALDH2 is the second enzyme of the major oxidative pathway of alcohol metabolism. ALDH2 has 2 major liver isoforms: cytosolic and mitochondrial, which differ by their electrophoretic mobilities, kinetic properties, and subcellular localizations. Nearly all Caucasians have 2 major isozymes, whereas roughly 50% of Orientals have only the cytosolic isozyme, omitting the mitochondrial isozyme. The extremely higher rate of acute alcohol intoxication with Orientals compared to Caucasians is due to the fact of the absence of mitochondrial isozyme. ALDH2 has a low Km for acetaldehydes, and is localized in mitochondrial matrix.
Description	ALDH2 Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 501 amino acids (18-517 a.a.) & having a molecular mass of 54.5 kDa. The ALDH2 is purified by proprietary chromatographic techniques.
Source	Escherichia Coli.
Physical Appearance	Sterile Filtered clear solution.
Formulation	ALDH2 protein contains 20mM Tris-HCl buffer, pH-7.5, 1mM DTT, 1mM EDTA and 10% Glycerol.
Purity	Greater than 90.0% as determined by SDS-PAGE.
Stability	Store vial at -20°C to -80°C. When stored at the recommended temperature, this protein is stable for 12 months. Please prevent freeze-thaw cycles.
Biological activity	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.
Amino Acid Sequence	MSAAATQAVP APNQPEVFC NQIFINNEWH DAVSRKTFPT VNPSTGEVIC QVAEGDKEDV DKAVKAARAA FQLGSPWRRM DASHRGRLLNRLADLIERDR TYLAALETLD NGKPYVISYL VDLDMVLKCL RYYAGWADKY HGKTIPIIDGD FFSYTRHEPV GVCGQIIPWN FPLLMQAWKL GPALATGNVV VMKVAEQTPL TALYVANLIK EAGFPPGVVN IVPFGPTAG AAIASHEDVD KVAFTGSTEI GRVIQVAAGS SNLKRVTLEL GGKSPNIIMS DADMDWAVEQ AHFALFFNQG QCCAGSRTF VQEDIYDEFV ERSVARAKSR VVGNPFDSKT EQGPQVDETQ FKKILGYINT GKQEGAKLLC GGGIAADRGY FIQPTVFGDV QDGMTIAKEE IFGPVMQILK FKTIEEVVGR ANNSTYGLAA AVFTKDLDKA NYLSQALQAGTVVWNCYDVF GAQSPFGGYK MSGSGRELGE YGLQAYTEVK TVTVKVPQKN S.