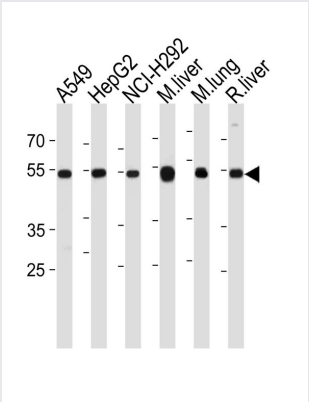
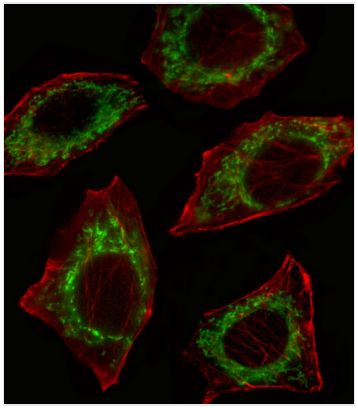
ALDH2 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	ALDH2, Polyclonal Antibody
Full Product Name	ALDH2, NT (Aldehyde Dehydrogenase, Mitochondrial, EC 1.2.1.3, ALDH Class 2, ALDHI, ALDH-E2, ALDM) (Biotin)
Product Gene Name	anti-ALDH2 antibody
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with Biotin.
Purity/Purification	Purified by Immunoaffinity chromatography.
Specificity	Recognizes human ALDH2.
Preparation and Storage	Store product at 4 degree C if to be used immediately within two weeks. For long-term storage, aliquot to avoid repeated freezing and thawing and store at -20 degree C. Aliquots are stable at -20 degree C for 12 months after receipt. Dilute required amount only prior to immediate use. Further dilutions can be made in assay buffer. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap.
Molecular Weight	50,989 Da
OMIM	gene+phenotype 610251
3D Structure	ModBase 3D Structure for P05091
Immunogen	Synthetic peptide selected from the N-terminal region of human ALDH2 (KLH).
Conjugate	Biotin
Note	Preservative Free
Product Categories/Family for anti-ALDH2 antibody	Antibodies; Enzymes; Dehydrogenase
Applications Tested/Suitable for anti-ALDH2 antibody	Immunohistochemistry (IHC), ELISA (EIA), Western Blot (WB)
Application Notes for anti-ALDH2 antibody	IHC: 1:10-1:50 ELISA: 1:1,000 WB: 1:50-1:100 Applications are based on unconjugated antibody.
Related Product Information for anti-ALDH2 antibody	MBS6462316 is an antibody targeting ALDH2. Also known as ALDH2, NT (Aldehyde Dehydrogenase, Mitochondrial, EC 1.2.1.3, ALDH Class 2, ALDHI, ALDH-E2, ALDM) (Biotin). Reactive in Human. Host: Rabbit.
Product References and Citations for anti-ALDH2 antibody	1. Guo, Y.M., World J. Gastroenterol. 14(9), 1444-1449 (2008). 2. Chen, L., PLoS Med. 5(3), E52 (2008). 3. Teeguarden, J.G., Inhal Toxicol 20(4), 375-390 (2008). 4. Yoshida, A., Pharmacogenetics 2(4), 139-147 (1992).
Other Notes	Small volumes of anti-ALDH2 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.



Western Blot (WB) of anti-ALDH2 antibody
ALDH2 Antibody (N-term) western blot analysis in A549,HepG2,NCI-H292 cell line,mouse liver,lung and rat liver tissue lysates (35ug/lane).This demonstrates the ALDH2 antibody detected the ALDH2 protein (arrow).



Immunofluorescence (IF) of anti-ALDH2 antibody
Fluorescent confocal image of A549 cell stained with ALDH2 Antibody (N-term).A549 cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with ALDH2 primary antibody (1:25, 1 h at 37 degree C). For secondary antibody, Alexa Fluor 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37 degree C).Cytoplasmic actin was counterstained with Alexa Fluor 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37 degree C). Nuclei were counterstained with DAPI (blue) (10 ug/ml, 10 min).ALDH2 immunoreactivity is localized to Mitochondrion significantly.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ALDH2. It may not necessarily be applicable to this product.

NCBI GI #	25777732
NCBI GeneID	217
NCBI Accession #	NP_000681
UniProt Primary Accession #	P05091
UniProt Secondary Accession #	Q03639; Q6IB13; Q6IV71; B4DW54; E7EUE5
UniProt Related Accession #	P05091
GenBank Nucleotide #	NM_000690.3
NCBI Official Full Name	aldehyde dehydrogenase, mitochondrial isoform 1
NCBI Official Synonym Full Names	aldehyde dehydrogenase 2 family member
NCBI Official Symbol	ALDH2
NCBI Official Synonym Symbols	ALDM; ALDHI; ALDH-E2
UniProt Protein Name	Aldehyde dehydrogenase, mitochondrial
UniProt Synonym Protein Names	ALDH class 2; ALDH-E2; ALDHI
UniProt Gene Name	ALDH2
UniProt Synonym Gene Names	ALDM
UniProt Entry Name	ALDH2_HUMAN
NCBI Protein Information	aldehyde dehydrogenase, mitochondrial

NCBI Summary for ALDH2	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]
UniProt Comments for ALDH2	ALDH2: 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.[provided by RefSeq, Mar 2011] Protein type: Lipid Metabolism - glycerolipid; Lipid Metabolism - fatty acid; Secondary Metabolites Metabolism - limonene and pinene degradation; Amino Acid Metabolism - valine, leucine and isoleucine degradation; EC 1.2.1.3; Amino Acid Metabolism - histidine; Carbohydrate Metabolism - ascorbate and aldarate; Mitochondrial; Carbohydrate Metabolism - propanoate; Oxidoreductase; Amino Acid Metabolism - arginine and proline; Carbohydrate Metabolism - pyruvate; Amino Acid Metabolism - tryptophan; Carbohydrate Metabolism - glycolysis and gluconeogenesis; Other Amino Acids Metabolism - beta-alanine; Amino Acid Metabolism - lysine degradation; Carbohydrate Metabolism - butanoate Chromosomal Location of Human Ortholog: 12q24.2 Cellular Component: mitochondrial matrix Molecular Function: aldehyde dehydrogenase (NAD) activity; electron carrier activity; aldehyde dehydrogenase [NAD(P)+] activity Biological Process: synaptic transmission; ethanol catabolic process; xenobiotic metabolic process; alcohol metabolic process; carbohydrate metabolic process; ethanol oxidation; neurotransmitter biosynthetic process Disease: Alcohol Sensitivity, Acute
Research Articles on ALDH2	**1.** Results show significant decreased risk among carriers of one or both Lys alleles of rs671 for invasive mucinous ovarian cancer and for invasive and borderline mucinous tumors. Because the rs671 Lys allele causes ALDH2 inactivation leading to increased acetaldehyde exposure, the observed inverse association with mucinous ovarian cancer is inferred to mean that alcohol intake may be a risk factor for this histotype.
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