ALDH1A1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	ALDH1A1, Polyclonal Antibody
Full Product Name	Anti-ALDH1A1 Antibody, Rabbit Polyclonal
Product Gene Name	anti-ALDH1A1 antibody
Product Synonym Names	ALDH1/ALDH1A1/ALDC Antibody, Rabbit PAb; aldehyde dehydrogenase 1 family, member A1; Anti-ALDC Antibody; Anti-ALDH-E1 Antibody; Anti-ALDH1 Antibody; Anti-ALDH11 Antibody; Anti-HEL-9 Antibody; Anti-HEL-S-53e Antibody; Anti-HEL12 Antibody; Anti-PUMB1 Antibody; Anti-RALDH1 Antibody
Clonality	Polyclonal
Isotype	Rabbit IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Liquid; 0.2um filtered solution in PBS
Purity/Purification	Protein A
Specificity	Human ALDH1/ALDH1A1/ALDC
Preparation and Storage	This antibody can be stored at 2-8 degree C for one month without detectable loss of activity. Antibody products are stable for twelve months from date of receipt when stored at -20 degree C to -80 degree C. Preservative-Free. Avoid repeated freeze-thaw cycles.
Molecular Weight	54,862 Da
OMIM	100640
3D Structure	ModBase 3D Structure for P00352
Immunogen	Recombinant Human ALDH1 protein
Conjugation	Unconjugated
Preparation	Produced in rabbits immunized with purified, recombinant Human ALDH1 (rh ALDH1). Total IgG was purified by Protein A affinity chromatography .
Applications Tested/Suitable for anti-ALDH1A1 antibody	ELISA (EIA)
Application Notes for anti-ALDH1A1 antibody	ELISA: 1:1000-1:2000

Related Product Information for anti-ALDH1A1 antibody	Aldehyde dehydrogenase 1 family, member A1 (ALDH1A1), also known as Aldehyde dehydrogenase 1 (ALDH1), or Retinaldehyde Dehydrogenase 1 (RALDH1), is an enzyme that is expressed at high levels in stem cells and that has been suggested to regulate stem cell function. The retinaldehyde dehydrogenase (RALDH) subfamily of ALDHs, composed of ALDH1A1, ALDH1A2, ALDH1A3, and ALDH8A1, regulate development by catalyzing retinoic acid biosynthesis. The ALDH1A1 protein belongs to the aldehyde dehydrogenases family of proteins. Aldehyde dehydrogenase is the second enzyme of the major oxidative pathway of alcohol metabolism. ALDH1A1 also belongs to the group of corneal crystallins that help maintain the transparency of the cornea. Increased ALDH1A1 activity has been found in the stem cell populations of leukemia and some solid tumors. In tumor specimens, increased ALDH1A1 immunopositivity was found not only in secretory type cancer epithelial cells but also in neuroendocrine tumor populations. ALDH1 has been identified as a reliable marker of breast cancer stem cells. ALDH1 expression in primary cancer is an independent prognostic factor in node-positive breast cancer patients. ALDH1A1 plays a key role in normal hematopoiesis, and as a TLX1 transcriptional target, ALDH1A1 may contribute to the ability of this homeoprotein to alter cell fate and induce tumor growth.
Product References and Citations for anti-ALDH1A1 antibody	Li T, et al. (2010). ALDH1A1 is a marker for malignant prostate stem cells and predictor of prostate cancer patients' outcome. Lab Invest. 90(2): 234-44.Levi BP, et al. (2009) Aldehyde dehydrogenase 1a1 is dispensable for stem cell function in the mouse hematopoietic and nervous systems. Blood. 113(8): 1670-80.Rahman FB, et al. (2006) Uncompetitive inhibition of Xenopus laevis aldehyde dehydrogenase 1A1 by divalent cations. Zoolog Sci. 23(3): 239-44.Jester JV, et al. (1999). The cellular basis of corneal transparency: evidence for corneal crystallins. J Cell Sci. 112 (Pt 5): 613-22.
Other Notes	Small volumes of anti-ALDH1A1 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.
Searchable Terms for ALDH1A1 purchase	MBS8105297 is an antibody targeting ALDH1A1. Also known as Anti-ALDH1A1 Antibody, Rabbit Polyclonal. Reactive in Human. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ALDH1A1. It may not necessarily be applicable to this product.

NCBI GI #	21361176
NCBI GeneID	216
NCBI Accession #	NP_000680.2
UniProt Primary Accession #	P00352
UniProt Secondary Accession #	O00768; Q5SYR1
UniProt Related Accession #	P00352
GenBank Nucleotide #	NM_000689.4
NCBI Official Full Name	retinal dehydrogenase 1
NCBI Official Synonym Full Names	aldehyde dehydrogenase 1 family, member A1
NCBI Official Symbol	ALDH1A1
NCBI Official Synonym Symbols	ALDC; ALDH1; HEL-9; HEL12; PUMB1; ALDH11; RALDH1; ALDH-E1; HEL-S-53e
UniProt Protein Name	Retinal dehydrogenase 1
UniProt Synonym Protein Names	ALDH-E1; ALHDII; Aldehyde dehydrogenase family 1 member A1; Aldehyde dehydrogenase, cytosolic
Protein Family	Retinal dehydrogenase
UniProt Gene Name	ALDH1A1
UniProt Synonym Gene Names	ALDC; ALDH1; PUMB1; RALDH 1; RalDH1
UniProt Entry Name	AL1A1_HUMAN

NCBI Protein Information	retinal dehydrogenase 1; ALDH class 1; ALHDII; RALDH 1; acetaldehyde dehydrogenase 1; aldehyde dehydrogenase 1, soluble; aldehyde dehydrogenase, liver cytosolic; epididymis luminal protein 12; epididymis luminal protein 9; epididymis secretory sperm bindi
NCBI Summary for ALDH1A1	The protein encoded by this gene belongs to the aldehyde dehydrogenase family. Aldehyde dehydrogenase is the next enzyme after alcohol dehydrogenase in the major pathway of alcohol metabolism. There are two major aldehyde dehydrogenase isozymes in the liver, cytosolic and mitochondrial, which are encoded by distinct genes, and can be distinguished by their electrophoretic mobility, kinetic properties, and subcellular localization. This gene encodes the cytosolic isozyme. Studies in mice show that through its role in retinol metabolism, this gene may also be involved in the regulation of the metabolic responses to high-fat diet. [provided by RefSeq, Mar 2011]
UniProt Comments for ALDH1A1	ALDH1A1: Binds free retinal and cellular retinol-binding protein- bound retinal. Can convert/oxidize retinaldehyde to retinoic acid. Belongs to the aldehyde dehydrogenase family. Protein type: GAPs, Ras; EC 1.2.1.36; GAPs; Cofactor and Vitamin Metabolism - retinol; Apoptosis; Oxidoreductase Chromosomal Location of Human Ortholog: 9q21.13 Cellular Component: cytoplasm; cytosol Molecular Function: aldehyde dehydrogenase (NAD) activity; androgen binding; 3-chloroallyl aldehyde dehydrogenase activity; benzaldehyde dehydrogenase (NAD+) activity; retinal dehydrogenase activity Biological Process: retinol metabolic process; xenobiotic metabolic process; aldehyde metabolic process; ethanol oxidation
Research Articles on ALDH1A1	**1.** Decreased expression of RALDH1 gene is associated with disease progression.
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