ALDH7A1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	ALDH7A1, Polyclonal Antibody
Full Product Name	ALDH7A1 Polyclonal Antibody
Product Gene Name	anti-ALDH7A1 antibody
Product Synonym Names	EPD; PDE; ATQ1
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Preparation and Storage	Store at -20 degree C. Avoid freeze/thaw cycles.
Molecular Weight	58kDa
OMIM	S74728 mRNA
3D Structure	ModBase 3D Structure for P49419
Immunogen	Recombinant protein of human ALDH7A1
Buffer	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-ALDH7A1 antibody	Western Blot (WB)
Application Notes for anti-ALDH7A1 antibody	WB: 1:1000 - 1:4000
Related Product Information for anti-ALDH7A1 antibody	The protein encoded by this gene is a member of subfamily 7 in the aldehyde dehydrogenase gene family. These enzymes are thought to play a major role in the detoxification of aldehydes generated by alcohol metabolism and lipid peroxidation. This particular member has homology to a previously described protein from the green garden pea, the 26g pea turgor protein. It is also involved in lysine catabolism that is known to occur in the mitochondrial matrix. Recent reports show that this protein is found both in the cytosol and the mitochondria, and the two forms likely arise from the use of alternative translation initiation sites. An additional variant encoding a different isoform has also been found for this gene. Mutations in this gene are associated with pyridoxine-dependent epilepsy. Several related pseudogenes have also been identified.
Other Notes	Small volumes of anti-ALDH7A1 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 ALDH7A1 purchase	MBS2548296 is an antibody targeting ALDH7A1. Also known as ALDH7A1 Polyclonal Antibody. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ALDH7A1. It may not necessarily be applicable to this product.

NCBI GI #	188035924
NCBI GeneID	501
NCBI Accession #	NP_001173.2

UniProt Primary Accession #	P49419
UniProt Secondary Accession #	O14619; Q6IPU8; Q9BUL4; B2R669; B4DIC7; B4DMA0; E7EPT3
UniProt Related Accession #	P49419
GenBank Nucleotide #	NM_001182.4
NCBI Official Full Name	alpha-aminoadipic semialdehyde dehydrogenase isoform 1
NCBI Official Synonym Full Names	aldehyde dehydrogenase 7 family member A1
NCBI Official Symbol	ALDH7A1
NCBI Official Synonym Symbols	EPD; PDE; ATQ1
UniProt Protein Name	Alpha-aminoadipic semialdehyde dehydrogenase
UniProt Synonym Protein Names	Aldehyde dehydrogenase family 7 member A1 (EC:1.2.1.3); Antiquitin-1; Betaine aldehyde dehydrogenase (EC:1.2.1.8); Delta1-piperideine-6-carboxylate dehydrogenase; P6c dehydrogenase
Protein Family	Alpha-aminoadipic semialdehyde dehydrogenase
UniProt Gene Name	ALDH7A1
UniProt Synonym Gene Names	ATQ1; Alpha-AASA dehydrogenase; P6c dehydrogenase
NCBI Protein Information	alpha-aminoadipic semialdehyde dehydrogenase
UniProt Comments for ALDH7A1	ALDH7A1: Multifunctional enzyme mediating important protective effects. Metabolizes betaine aldehyde to betaine, an important cellular osmolyte and methyl donor. Protects cells from oxidative stress by metabolizing a number of lipid peroxidation-derived aldehydes. Involved in lysine catabolism. Defects in ALDH7A1 are the cause of pyridoxine-dependent epilepsy (PDE). PDE is characterized by a combination of various seizure types. It usually occurs in the first hours of life and is unresponsive to standard anticonvulsants, responding only to immediate administration of pyridoxine hydrochloride. Belongs to the aldehyde dehydrogenase family. 3 isoforms of the human protein are produced by alternative splicing. Protein type: Amino Acid Metabolism - arginine and proline; Amino Acid Metabolism - histidine; Amino Acid Metabolism - lysine degradation; Amino Acid Metabolism - tryptophan; Amino Acid Metabolism - valine, leucine and isoleucine degradation; Carbohydrate Metabolism - ascorbate and aldarate; Carbohydrate Metabolism - butanoate; Carbohydrate Metabolism - glycolysis and gluconeogenesis; Carbohydrate Metabolism - propanoate; Carbohydrate Metabolism - pyruvate; EC 1.2.1.3; EC 1.2.1.31; EC 1.2.1.8; Lipid Metabolism - fatty acid; Lipid Metabolism - glycerolipid; Mitochondrial; Other Amino Acids Metabolism - beta-alanine; Oxidoreductase; Secondary Metabolites Metabolism - limonene and pinene degradation Chromosomal Location of Human Ortholog: 5q23.2 Cellular Component: cytosol; mitochondrial matrix; mitochondrion Molecular Function: aldehyde dehydrogenase (NAD) activity; betaine-aldehyde dehydrogenase activity; L-aminoadipate-semialdehyde dehydrogenase activity; protein binding Biological Process: aldehyde metabolic process; choline catabolic process; lysine catabolic process; sensory perception of sound Disease: Epilepsy, Pyridoxine-dependent
Research Articles on ALDH7A1	**1.** We present the clinical and molecular genetic findings of two patients with c.1597_1597delG mutations in ALDH7A1 gene.
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