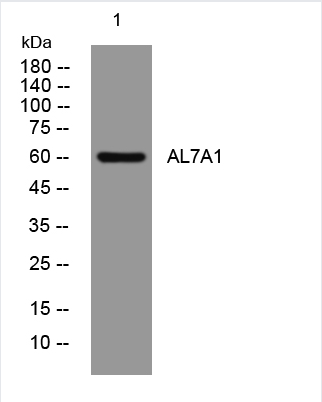
# AL7A1 Antibody – Rabbit Polyclonal

## PRODUCT OVERVIEW

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| **Product Name** | AL7A1, Polyclonal Antibody |
| **Full Product Name** | AL7A1 Antibody |
| **Product Gene Name** | anti-AL7A1 antibody |
| **Product Synonym Names** | AL7A1 |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Host** | Rabbit |
| **Species Reactivity** | Human, Mouse, Rat |
| **Form/Format** | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide. |
| **Purity/Purification** | The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. |
| **Concentration** | 1mg/ml (lot specific) |
| **Specificity** | This antibody detects endogenous levels of AL7A1 at Human/Mouse/Rat |
| **Preparation and Storage** | Store at -20 degree C/1 year |
| **Molecular Weight** | 51,411 Da |
| **OMIM** | S74728 mRNA |
| **3D Structure** | ModBase 3D Structure for P49419 |
| **Immunogen** | Synthesized peptide derived from human AL7A1 AA range: 229-279 |
| **Modification** | Unmodified/Total |
| **Product Categories/Family for anti-AL7A1 antibody** | Primary Antibodies |
| **Applications Tested/Suitable for anti-AL7A1 antibody** | Western Blot (WB) |
| **Application Notes for anti-AL7A1 antibody** | WB: 1:500-2000 |
| **Related Product Information for anti-AL7A1 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. [provided by RefSeq, Jan 2011] |
| **Other Notes** | Small volumes of anti-AL7A1 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 AL7A1 purchase** | MBS9519595 is an antibody targeting AL7A1. Also known as AL7A1 Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit. |




**Western Blot (WB) of anti-AL7A1 antibody**
Western blot analysis of lysates from A431 cells, primary antibody was diluted at 1:1000, 4 degree over night

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for AL7A1. It may not necessarily be applicable to this product.

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| **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 |
| **UniProt Gene Name** | ALDH7A1 |
| **UniProt Synonym Gene Names** | ATQ1; Alpha-AASA dehydrogenase; P6c dehydrogenase |
| **NCBI Protein Information** | alpha-aminoadipic semialdehyde dehydrogenase |

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| **UniProt Comments for AL7A1** | 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.<br><br>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<br><br>Chromosomal Location of Human Ortholog: 5q23.2<br><br>Cellular Component: cytoplasm; mitochondrial matrix; mitochondrion<br><br>Molecular Function: aldehyde dehydrogenase (NAD) activity; betaine-aldehyde dehydrogenase activity; L-aminoadipate-semialdehyde dehydrogenase activity; protein binding<br><br>Biological Process: aldehyde metabolic process; choline catabolic process; lysine catabolic process; sensory perception of sound<br><br>Disease: Epilepsy, Pyridoxine-dependent |
| **Research Articles on AL7A1** | **1.** Direct sequencing of the ALDH7A1 gene revealed one novel (c.297delG, p.Trp99*) and two already reported (c.328C>T, p.Arg110*; c.584A>G, p.Asn195Ser) mutations |
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