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Anti-ALDH7A1 Picoband Antibody

Catalog # ABO11656

Product Information

Application	WB, IHC-P
Primary Accession	P49419
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Alpha-aminoadipic semialdehyde dehydrogenase(ALDH7A1) detection. Tested with WB, IHC-P in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	501
Other Names	Alpha-aminoadipic semialdehyde dehydrogenase, Alpha-AASA dehydrogenase, 1.2.1.31, Aldehyde dehydrogenase family 7 member A1, 1.2.1.3, Antiquitin-1, Betaine aldehyde dehydrogenase, 1.2.1.8, Delta1-piperideine-6-carboxylate dehydrogenase, P6c dehydrogenase, ALDH7A1, ATQ1
Calculated MW	58487
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat
Subcellular Localization	Cytoplasm, cytosol . Nucleus .
Tissue Specificity	Abundant in hepatoma cells and fetal cochlea, ovary, eye, heart, adrenal gland, liver and kidney. Low levels present in adult peripheral blood leukocytes and fetal brain, thymus, spleen, skeletal muscle, lung and tongue. .
Source	Eukaryota
Protein Name	Alpha-aminoadipic semialdehyde dehydrogenase
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human ALDH7A1 (333-369aa ARRLFIHESIHDEVVNRLKKAYAQIRVGNPWDPNVLY),

	different from the related mouse sequence by eight amino acids, and from the related rat sequence by six amino acids.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Protein Information

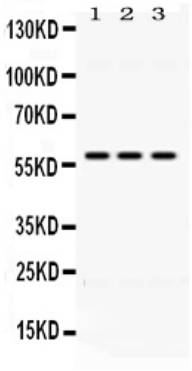
Name	ALDH7A1 {ECO:0000303|PubMed:21338592, ECO:0000312|HGNC:HGNC:877}
Function	Aldehyde dehydrogenase enzyme that mediates important protective effects (PubMed:16491085, PubMed:20207735, PubMed:20554659, PubMed:21338592, PubMed:25554827, PubMed:31302938, PubMed:31652343, PubMed:38604394, PubMed:40233740). Protects cells from oxidative stress by metabolizing a number of lipid peroxidation-derived aldehydes (PubMed:16491085, PubMed:20207735, PubMed:21338592, PubMed:40233740). Involved in cellular defense against hyperosmotic stress by metabolizing betaine aldehyde to betaine, an important cellular osmolyte and methyl donor (PubMed:20207735).
Cellular Location	[Isoform 1]: Mitochondrion
Tissue Location	Abundant in hepatoma cells and fetal cochlea, ovary, eye, heart, adrenal gland, liver and kidney. Low levels present in adult peripheral blood leukocytes and fetal brain, thymus, spleen, skeletal muscle, lung and tongue.

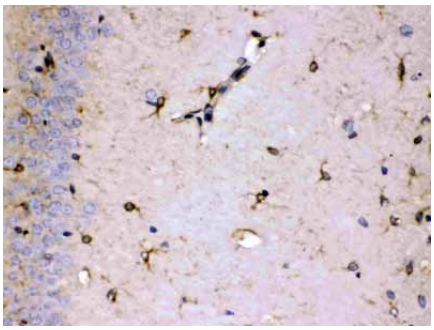
Background

Aldehyde dehydrogenase 7 family, member A1, also known as ALDH7A1 or antiquitin, is an enzyme that in humans is encoded by the ALDH7A1 gene. 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 andlipid 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.

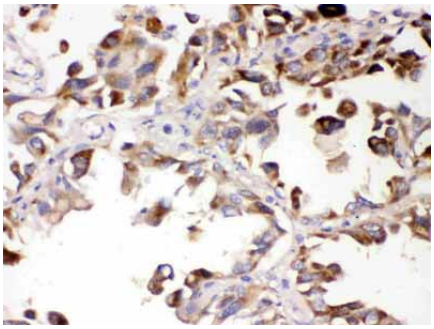
Images

Western blot analysis of ALDH7A1 expression in rat liver extract (lane 1), HEPA whole cell lysates (lane 2) and HELA whole cell lysates (lane 3). ALDH7A1 at 58KD was detected using rabbit anti- ALDH7A1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11656) at 0.5 □¼g/mL. The blot was developed using chemiluminescence (ECL) method .





ALDH7A1 was detected in paraffin-embedded sections of rat brain tissues using rabbit anti- ALDH7A1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11656) at 1 □¼g/mL. The immunohistochemical section was developed using SABC method .



ALDH7A1 was detected in paraffin-embedded sections of human lung cancer tissues using rabbit anti- ALDH7A1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11656) at 1 ??g/mL. The immunohistochemical section was developed using SABC method .

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