

ALDH1A1 Antibody

Rabbit mAb

Catalog # AP90198

Product Information

Application	WB, IHC, IF, FC, ICC, IP, IHF
Primary Accession	P00352
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	ALDC; ALDH1; PUMB1; ALDH11; RALDH1; ALDH-E1; ALDH1A1;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	54862

Additional Information

Dilution	WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200 IP 1:50 FC 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human ALDH1A1
Description	ALDH1A1 is a liver cytosolic isoform of acetaldehyde dehydrogenase and is involved in the major pathway of alcohol metabolism along with alcohol dehydrogenase . ALDH1A1 is also known as retinal dehydrogenase 1 and is involved in retinol metabolism, converting retinol to retinoic acid.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	ALDH1A1 (HGNC:402)
Function	Cytosolic dehydrogenase that catalyzes the irreversible oxidation of a wide range of aldehydes to their corresponding carboxylic acid (PubMed: 12941160 , PubMed: 15623782 , PubMed: 17175089 , PubMed: 19296407 , PubMed: 25450233 , PubMed: 26373694). Functions downstream of retinol dehydrogenases and catalyzes the oxidation of retinaldehyde into retinoic acid, the second step in the oxidation of retinol/vitamin A into retinoic acid (By similarity). This pathway is crucial to control the levels of retinol and retinoic acid, two important molecules which excess can be teratogenic and cytotoxic (By similarity). Also oxidizes aldehydes resulting from lipid peroxidation like (E)-4-hydroxynon-2-enal/HNE, malonaldehyde and hexanal that form protein adducts and are highly cytotoxic. By participating for instance to the clearance of (E)-4-hydroxynon-2-enal/HNE in the lens epithelium prevents the formation of HNE-protein adducts and lens opacification (PubMed: 12941160 , PubMed: 15623782 , PubMed: 19296407). Also functions downstream of fructosamine-3-kinase in the fructosamine

degradation pathway by catalyzing the oxidation of 3-deoxyglucosone, the carbohydrate product of fructosamine 3-phosphate decomposition, which is itself a potent glycating agent that may react with lysine and arginine side-chains of proteins (PubMed:[17175089](#)). Also has an aminobutyraldehyde dehydrogenase activity and is probably part of an alternative pathway for the biosynthesis of GABA/4-aminobutanoate in midbrain, thereby playing a role in GABAergic synaptic transmission (By similarity).

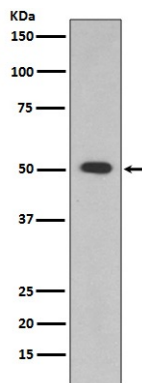
Cellular Location

Cytoplasm, cytosol. Cell projection, axon {ECO:0000250|UniProtKB:P24549}

Tissue Location

Expressed by erythrocytes (at protein level).

Images



Western blot analysis of ALDH1A1 expression in HepG2 cell lysate.

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Immunohistochemical analysis of paraffin-embedded human liver cancer, using ALDH1A1 Antibody.

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