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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

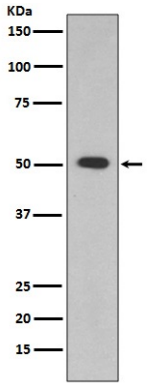
Dilution	WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200 IP 1:50 FC 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human ALDH1A1
Description	ALDH1A1 is a liver cytosolic isoform of acetaldehyde dehydrogenase and is involved in the major pathway of alcohol metabolism 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 NAD(+)-dependent irreversible oxidation of a wide range of aldehydes to their corresponding carboxylic acid (PubMed:25450233, PubMed:26373694, PubMed:22339434, PubMed:23444097). 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 (PubMed:25413692). This pathway is crucial to control the levels of retinol and retinoic acid, two important molecules which excess can be teratogenic and cytotoxic (PubMed:25413692). 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.

Image not found : 202311/AP90198-IHC.jpg

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

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.