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Anti-ALDH1A1 Rabbit Monoclonal Antibody

Catalog # ABO13884

Product Information

Application	WB, IHC, IF, ICC, IP, FC
Primary Accession	P00352
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-ALDH1A1 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, Flow Cytometry, IP applications. This antibody reacts with Human, Mouse, Rat.

Additional Information

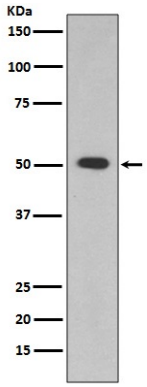
Gene ID	216
Other Names	Aldehyde dehydrogenase 1A1, 1.2.1.19, ALDH1A1 (HGNC:402)
Calculated MW	54862
Application Details	WB 1:500-1:2000 IHC 1:50-1:200 ICC/IF 1:50-1:200 IP 1:50 FC 1:50
Subcellular Localization	Cytoplasm.
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: AHA-1
Immunogen	A synthesized peptide derived from human ALDH1A1
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

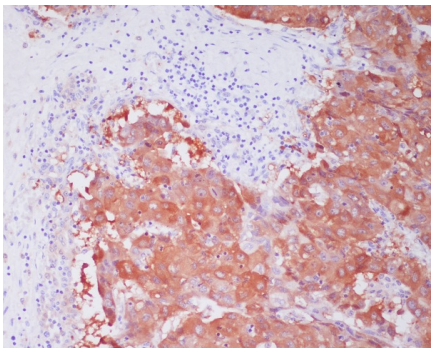
Name	ALDH1A1 (HGNC:402)

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.



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'.