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ALDH1A1 Antibody - C-terminal region

Rabbit Polyclonal Antibody
Catalog # AI16094

Product Information

Application	WB
Primary Accession	P00352
Other Accession	XP_005251857
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	54862

Additional Information

Gene ID	216
Alias Symbol	ALDH1A1, ALDC, ALDH1, PUMB1,
Other Names	Retinal dehydrogenase 1, RALDH 1, RalDH1, 1.2.1.36, ALDH-E1, ALHDII, Aldehyde dehydrogenase family 1 member A1, Aldehyde dehydrogenase, cytosolic, ALDH1A1, ALDC, ALDH1, PUMB1
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 50 &mu, l of distilled water. Final Anti-ALDH1A1 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at -20°C. Avoid repeat freeze-thaw cycles.
Precautions	ALDH1A1 Antibody - C-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

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).

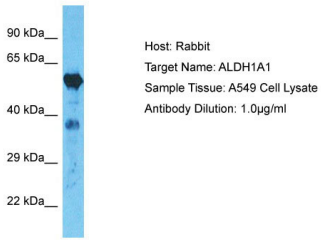
Background

Binds free retinal and cellular retinol-binding protein- bound retinal. Can convert/oxidize retinaldehyde to retinoic acid (By similarity).

References

Hsu L.C.,et al.Genomics 5:857-865(1989).
Zheng C.F.,et al.Alcohol. Clin. Exp. Res. 17:828-831(1993).
Ramana K.V.,et al.Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.
Kalnine N.,et al.Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
Humphray S.J.,et al.Nature 429:369-374(2004).

Images



Host: Rabbit
Target Name: ALDH1A1
Sample Tissue: A549 Whole cell lysate
s
Antibody Dilution: 1.0µg/ml

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