

ALDH1A1 Antibody - C-terminal region

Rabbit Polyclonal Antibody Catalog # AI16094

Product Information

WB
<u>P00352</u>
<u>XP_005251857</u>
Human
Rabbit
Polyclonal
54862

Additional Information

Gene ID	216
Alias Symbol Other Names	ALDH1A1, ALDC, ALDH1, PUMB1, 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 μ, 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 (<u>HGNC:402</u>)
Function	Cytosolic dehydrogenase that catalyzes the irreversible oxidation of a wide range of aldehydes to their corresponding carboxylic acid (PubMed: <u>12941160</u> , PubMed: <u>15623782</u> , PubMed: <u>17175089</u> , PubMed: <u>19296407</u> , PubMed: <u>25450233</u> , PubMed: <u>26373694</u>). 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: <u>12941160</u> , PubMed: <u>15623782</u> , PubMed: <u>19296407</u>). 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: <u>17175089</u>). 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 Cell Lysate Antibody Dilution: 1.0µg/ml Host: Rabbit Target Name: ALDH1A1 Sample Tissue: A549 Whole cell lysate s Antibody Dilution: 1.0µg/ml

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