

ALDH1A1 Polyclonal Antibody
Catalog # AP73340**Specification****ALDH1A1 Polyclonal Antibody - Product Information**

Application	WB, IHC-P
Primary Accession	P00352
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal

ALDH1A1 Polyclonal Antibody - Additional Information**Gene ID** 216**Other Names**

ALDH1A1; ALDC; ALDH1; PUMB1; Retinal dehydrogenase 1; RALDH 1; RaLDH1; ALDH-E1; ALHDII; Aldehyde dehydrogenase family 1 member A1; Aldehyde dehydrogenase, cytosolic

Dilution

WB~~Western Blot: 1/500 - 1/2000. IHC-p: 1:100-300 ELISA: 1/20000. Not yet tested in other applications.

IHC-P~~N/A

Format

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

Storage Conditions

-20°C

ALDH1A1 Polyclonal Antibody - 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:<[a href="http://www.uniprot.org/citations/12941160" target="_blank">12941160](http://www.uniprot.org/citations/12941160), PubMed:<[a href="http://www.uniprot.org/citations/15623782" target="_blank">15623782](http://www.uniprot.org/citations/15623782), PubMed:<[a href="http://www.uniprot.org/citations/17175089" target="_blank">17175089](http://www.uniprot.org/citations/17175089), PubMed:<[a href="http://www.uniprot.org/citations/19296407" target="_blank">19296407](http://www.uniprot.org/citations/19296407), PubMed:<[a href="http://www.uniprot.org/citations/25450233" target="_blank">25450233](http://www.uniprot.org/citations/25450233), PubMed:<[a href="http://www.uniprot.org/citations/26373694" target="_blank">26373694](http://www.uniprot.org/citations/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

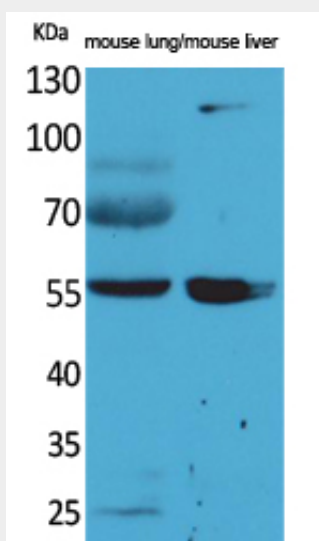
Expressed by erythrocytes (at protein level).

ALDH1A1 Polyclonal Antibody - Protocols

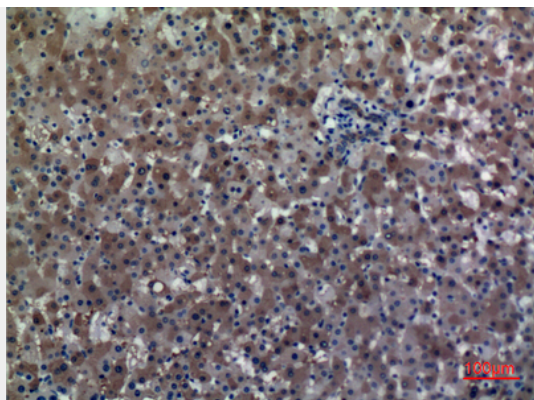
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

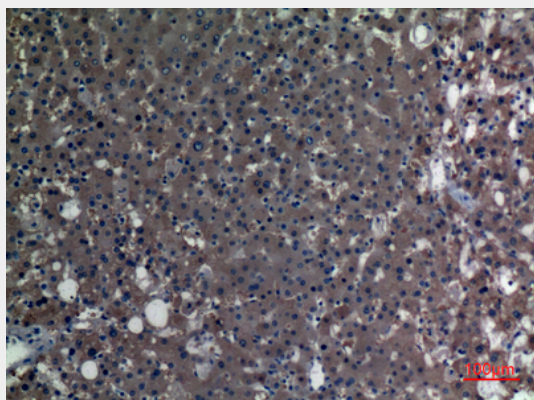
ALDH1A1 Polyclonal Antibody - Images



Western Blot analysis of mouse lung, mouse liver cells using ALDH1A1 Polyclonal Antibody.. Secondary antibody was diluted at 1:20000



Immunohistochemical analysis of paraffin-embedded human-liver, antibody was diluted at 1:100



Immunohistochemical analysis of paraffin-embedded human-liver, antibody was diluted at 1:100

ALDH1A1 Polyclonal Antibody - Background

Can convert/oxidize retinaldehyde to retinoic acid. Binds free retinal and cellular retinol-binding protein-bound retinal (By similarity). May have a broader specificity and oxidize other aldehydes in vivo (PubMed:19296407, PubMed:26373694, PubMed:25450233).