

ALDH1A1 / ALDH1 Antibody (clone 5A11)
Mouse Monoclonal Antibody
Catalog # ALS16045**Specification****ALDH1A1 / ALDH1 Antibody (clone 5A11) - Product Information**

Application	IHC
Primary Accession	P00352
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	55kDa KDa

ALDH1A1 / ALDH1 Antibody (clone 5A11) - Additional Information**Gene ID** 216**Other Names**

Retinal dehydrogenase 1, RALDH 1, RaIDH1, 1.2.1.36, ALDH-E1, ALHDII, Aldehyde dehydrogenase family 1 member A1, Aldehyde dehydrogenase, cytosolic, ALDH1A1, ALDC, ALDH1, PUMB1

Target/Specificity

Human ALDH1A1 / ALDH1

Reconstitution & Storage

Long term: -20°C; Short term: +4°C; Avoid freeze-thaw cycles.

Precautions

ALDH1A1 / ALDH1 Antibody (clone 5A11) is for research use only and not for use in diagnostic or therapeutic procedures.

ALDH1A1 / ALDH1 Antibody (clone 5A11) - 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: [12941160](http://www.uniprot.org/citations/12941160) target="_blank">12941160, PubMed: [15623782](http://www.uniprot.org/citations/15623782) target="_blank">15623782, PubMed: [17175089](http://www.uniprot.org/citations/17175089) target="_blank">17175089, PubMed: [19296407](http://www.uniprot.org/citations/19296407) target="_blank">19296407, PubMed: [25450233](http://www.uniprot.org/citations/25450233) target="_blank">25450233, PubMed: [26373694](http://www.uniprot.org/citations/26373694) target="_blank">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). Functions also 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). Has also 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

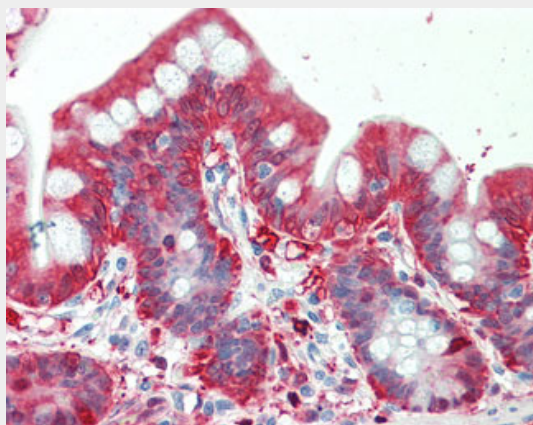
Expressed by erythrocytes (at protein level).

ALDH1A1 / ALDH1 Antibody (clone 5A11) - 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 / ALDH1 Antibody (clone 5A11) - Images



Anti-ALDH1A1 / ALDH1 antibody IHC staining of human small intestine.

ALDH1A1 / ALDH1 Antibody (clone 5A11) - Background

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

ALDH1A1 / ALDH1 Antibody (clone 5A11) - 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).