

# ALDH1A1 Rabbit mAb

Catalog # AP74894

## Product Information

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Application	WB, IHC-P, IP
Primary Accession	<a href="#">P00352</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	54862

## Additional Information

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Gene ID	216
Other Names	ALDH1A1
Dilution	WB~~1/500-1/1000 IHC-P~~N/A IP~~N/A
Format	Liquid

## Protein Information

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**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](#), PubMed:[15623782](#), PubMed:[17175089](#), PubMed:[19296407](#), PubMed:[25450233](#), PubMed:[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**

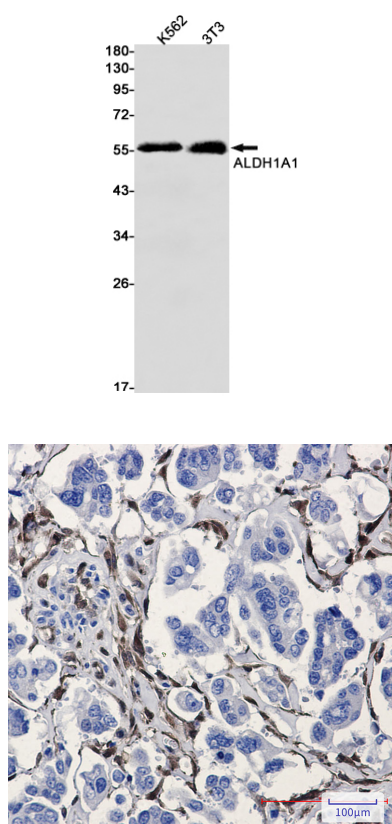
Cytoplasm, cytosol. Cell projection, axon {ECO:0000250|UniProtKB:P24549}

**Tissue Location**

Expressed by erythrocytes (at protein level).

**Images**

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