10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

# ALDH1A1 Rabbit mAb

Catalog # AP74894

## Product Information

| | |
|---|---|
| **Application** | WB, IHC-P, IP |
| **Primary Accession** | P00352 |
| **Reactivity** | Human, Mouse |
| **Host** | Rabbit |
| **Clonality** | Monoclonal Antibody |
| **Calculated MW** | 54862 |

## Additional Information

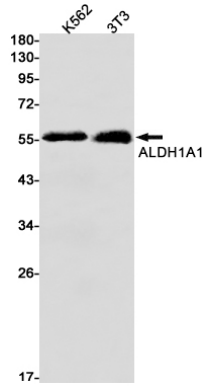
| | |
|---|---|
| **Gene ID** | 216 |
| **Other Names** | ALDH1A1 |
| **Dilution** | WB~~1/500-1/1000 IHC-P~~N/A IP~~N/A |
| **Format** | 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA. |
| **Storage** | Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles. |

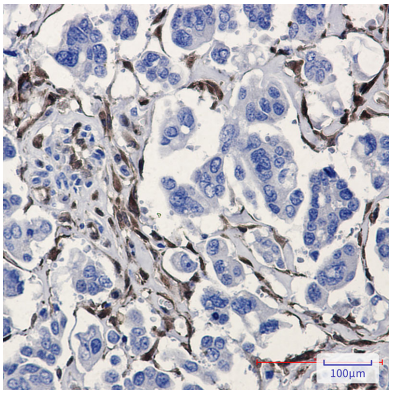
## Protein Information

| | |
|---|---|
| **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, 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




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