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# ALDH1A1

Purified Mouse Monoclonal Antibody
Catalog # AO2560a

## Product Information

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|---|---|
| **Application** | WB, IHC, ICC, E |
| **Primary Accession** | P00352 |
| **Reactivity** | Human |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Clone Names** | 2G1G4 |
| **Isotype** | Mouse IgG1 |
| **Calculated MW** | 54862 |
| **Immunogen** | Purified recombinant fragment of human ALDH1A1 (AA: 1-110) expressed in E. Coli. |
| **Formulation** | Purified antibody in PBS with 0.05% sodium azide |

## Additional Information

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| **Gene ID** | 216 |
| **Other Names** | ALDC; ALDH1; HEL-9; HEL12; PUMB1; ALDH11; RALDH1; ALDH-E1; HEL-S-53e |
| **Dilution** | WB~~ 1/500 - 1/2000 IHC~~ 1/200 - 1/1000 ICC~~N/A E~~ 1/10000 |
| **Storage** | Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | ALDH1A1 is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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|---|---|
| **Name** | ALDH1A1 ( HGNC:402) |
| **Function** | Cytosolic dehydrogenase that catalyzes the NAD(+)-dependent irreversible oxidation of a wide range of aldehydes to their corresponding carboxylic acid (PubMed:25450233, PubMed:26373694, PubMed:22339434, PubMed:23444097). 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 (PubMed:25413692). This pathway is crucial to control the levels of retinol and retinoic acid, two important molecules which excess can be teratogenic and cytotoxic (PubMed:25413692). 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).

## References

1.Oncotarget. 2015 Dec 1;6(38):41360-9.2.Biomark Med. 2015;9(8):777-90.

## Images

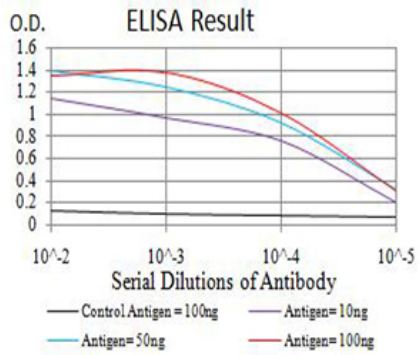



Figure 1:Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)

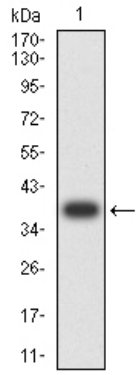
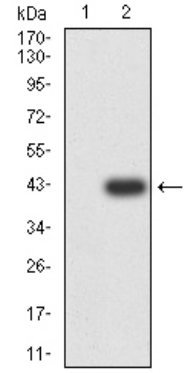



Figure 2:Western blot analysis using ALDH1A1 mAb against human ALDH1A1 (AA: 1-110) recombinant protein. (Expected MW is 38.4 kDa)

Figure 3:Western blot analysis using ALDH1A1 mAb against HEK293 (1) and ALDH1A1 (AA: 1-110)-hIgGFc transfected HEK293 (2) cell lysate.



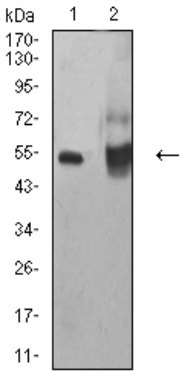




Figure 4:Western blot analysis using ALDH1A1 mouse mAb against HepG2 (1) and A549 (2) cell lysate.

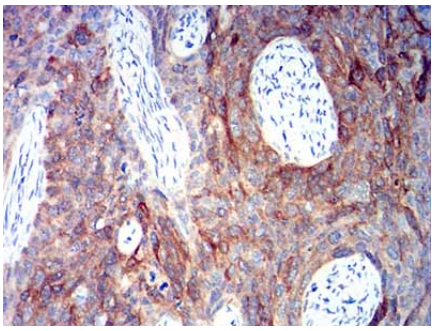
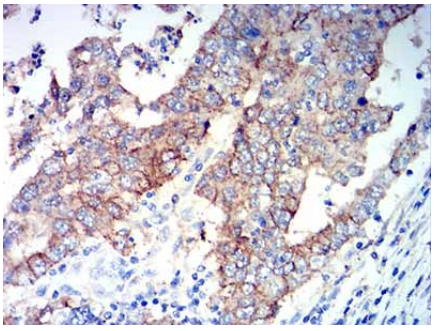


Figure 5:Immunohistochemical analysis of paraffin-embedded cervical cancer tissues using ALDH1A1 mouse mAb with DAB staining.



1/200 - 1/1000

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