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# Anti-ALDH1A1 Rabbit Monoclonal Antibody

Catalog # ABO13884

## Product Information

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|---|---|
| **Application** | WB, IHC, IF, ICC, IP, FC |
| **Primary Accession** | P00352 |
| **Host** | Rabbit |
| **Isotype** | Rabbit IgG |
| **Reactivity** | Rat, Human, Mouse |
| **Clonality** | Monoclonal |
| **Format** | Liquid |
| **Description** | Anti-ALDH1A1 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, Flow Cytometry, IP applications. This antibody reacts with Human, Mouse, Rat. |

## Additional Information

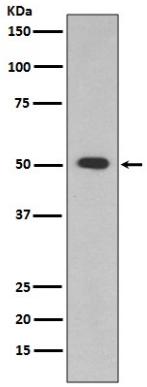
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|---|---|
| **Gene ID** | 216 |
| **Other Names** | Aldehyde dehydrogenase 1A1, 1.2.1.19, ALDH1A1 (HGNC:402) |
| **Calculated MW** | 54862 |
| **Application Details** | WB 1:500-1:2000<br>IHC 1:50-1:200<br>ICC/IF 1:50-1:200<br>IP 1:50<br>FC 1:50 |
| **Subcellular Localization** | Cytoplasm. |
| **Source** | Eukaryota |
| **Contents** | Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA. |
| **Clone Names** | Clone: AHA-1 |
| **Immunogen** | A synthesized peptide derived from human ALDH1A1 |
| **Purification** | Affinity-chromatography |
| **Storage** | Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles. |

## Protein Information

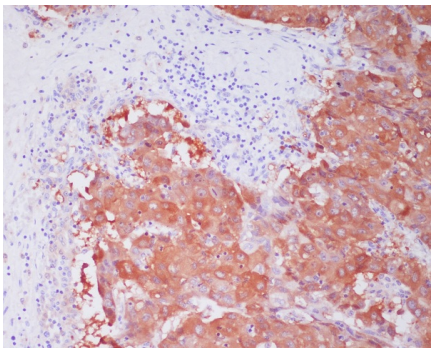
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|---|---|
| **Name** | ALDH1A1 ( HGNC:402) |

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| **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). |

## Images




Western blot analysis of ALDH1A1 expression in HepG2 cell lysate.



Immunohistochemical analysis of paraffin-embedded human liver cancer, using ALDH1A1 Antibody.

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