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Anti-ALDH2 Rabbit Monoclonal Antibody

Catalog # ABO16701

Product Information

Application	WB
Primary Accession	P05091
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-ALDH2 Rabbit Monoclonal Antibody . Tested in WB applications. This antibody reacts with Human, Mouse, Rat.

Additional Information

Gene ID	217
Other Names	Aldehyde dehydrogenase, mitochondrial, 1.2.1.3, ALDH class 2, ALDH-E2, ALDHI, ALDH2, ALDM
Calculated MW	56381
Application Details	WB 1:500-1:2000
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: 31A72
Immunogen	A synthesized peptide derived from human ALDH2
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.

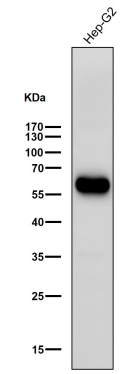
Protein Information

Name	ALDH2 (HGNC:404)
Synonyms	ALDM
Function	Mitochondrial aldehyde dehydrogenase with broad substrate specificity which participates in the detoxification of ethanol-derived acetaldehyde and endogenous aldehydes, including those arising from lipid peroxidation

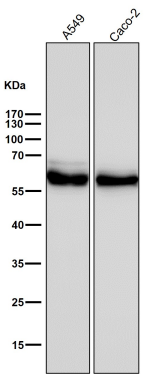
(PubMed:16956664, PubMed:22339434, PubMed:33355142, PubMed:39075523). The reaction mechanism involves a nucleophilic attack on the aldehyde substrate, resulting in formation of a thiohemiacetal intermediate. Subsequent hydride transfer to NAD+, yields a thioester intermediate which is hydrolyzed to the carboxylic acid product through activation of a water molecule by the catalytic glutamate (PubMed:19506075). In vivo, ALDH2 is required for the clearance of formaldehyde, a cytotoxic and carcinogenic endogenous metabolite that induces DNA damage (PubMed:33355142). It also catalyzes the oxidation of 3,4-dihydroxyphenylacetaldehyde (DOPAL), a reactive intermediate of dopamine catabolism, to 3,4-dihydroxyphenylacetate (DOPAC) (PubMed:16956664). ALDH2 may also catalyze the oxidation of 4-aminobutanal (gamma-aminobutyraldehyde) to 4-aminobutanoate (GABA), representing an alternative route for GABA biosynthesis from polyamine catabolism (By similarity). In vitro, ALDH2 catalyzes the oxidation of acrolein, malondialdehyde, and 4-hydroxynonenal (4-HNE) (PubMed:22339434). It also exhibits esterase activity that is enhanced by NAD+ but does not require it, although the physiological relevance of this activity remains unclear (PubMed:19506075).

Cellular Location Mitochondrion

Images

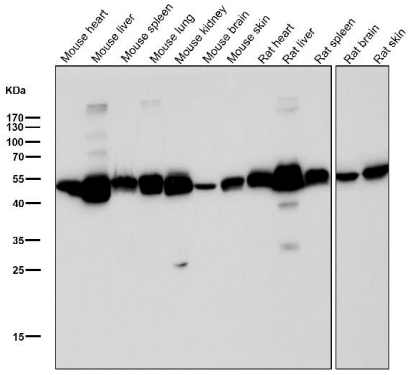


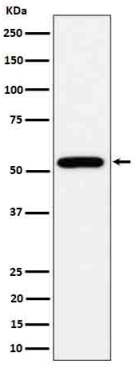
All lanes use the Antibody at 1:3K dilution for 1 hour at room temperature.



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Western blot analysis of ALDH2 expression in HepG2 cell lysate.

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