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ALDH2 Polyclonal Antibody

Catalog # AP73538

Product Information

Application	WB, IHC-P, IF, ICC, E
Primary Accession	P05091
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	56381

Additional Information

Gene ID	217
Other Names	ALDH2; ALDM; Aldehyde dehydrogenase, mitochondrial; ALDH class 2; ALDH-E2; ALDHI
Dilution	WB~~Western Blot: 1/500 - 1/2000. IHC-p: 1/100-1/300. ELISA: 1/20000. Not yet tested in other applications. IHC-P~~Western Blot: 1/500 - 1/2000. IHC-p: 1/100-1/300. ELISA: 1/20000. Not yet tested in other applications. IF~~1:50~200 ICC~~N/A E~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

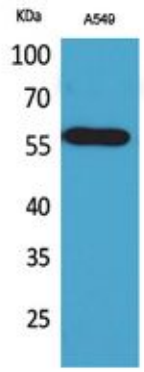
Protein Information

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

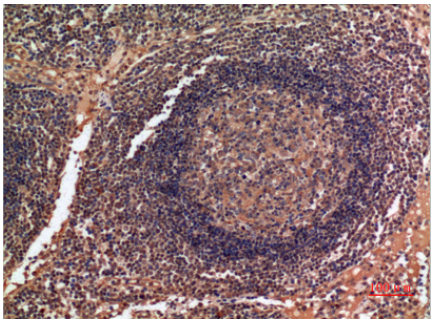
dopamine catabolism, to 3,4-dihydroxyphenylacetate (DOPAC) (PubMed:16956664). ALDH2 may also catalyze the oxidation of 4-aminobutanal (gamma-aminobutyraldehyde) to 4-aminobutanoate (GABA), representing an alternative route for GABA biosynthesis from polyamine catabolism (By similarity). In vitro, ALDH2 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

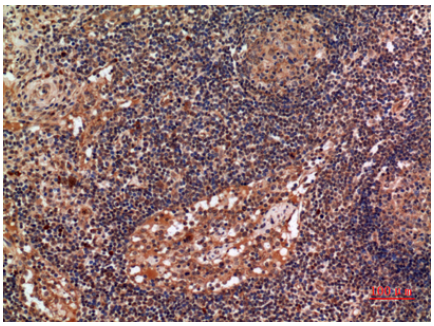
Images



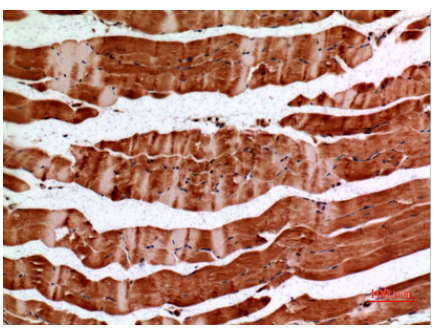
Western Blot analysis of A549 cells using ALDH2 Polyclonal Antibody.. Secondary antibody was diluted at 1:20000



Immunohistochemical analysis of paraffin-embedded human-lymph-gland, antibody was diluted at 1:100



Immunohistochemical analysis of paraffin-embedded human-lymph-gland, antibody was diluted at 1:100



Immunohistochemical analysis of paraffin-embedded mouse-muscle, antibody was diluted at 1:100

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