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ALDH4A1 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7875c

Product Information

Application	IHC-P, WB, E
Primary Accession	P30038
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB16833
Calculated MW	61719
Antigen Region	288-314

Additional Information

Gene ID	8659
Other Names	Delta-1-pyrroline-5-carboxylate dehydrogenase, mitochondrial, P5C dehydrogenase, Aldehyde dehydrogenase family 4 member A1, L-glutamate gamma-semialdehyde dehydrogenase, ALDH4A1, ALDH4, P5CDH
Target/Specificity	This ALDH4A1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 288-314 amino acids from the Central region of human ALDH4A1.
Dilution	IHC-P~~1:100~500 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ALDH4A1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ALDH4A1
Synonyms	ALDH4, P5CDH
Function	Irreversible conversion of delta-1-pyrroline-5-carboxylate (P5C), derived

either from proline or ornithine, to glutamate. This is a necessary step in the pathway interconnecting the urea and tricarboxylic acid cycles. The preferred substrate is glutamic gamma- semialdehyde, other substrates include succinic, glutaric and adipic semialdehydes.

Cellular Location Mitochondrion matrix.

Tissue Location Highest expression is found in liver followed by skeletal muscle, kidney, heart, brain, placenta, lung and pancreas

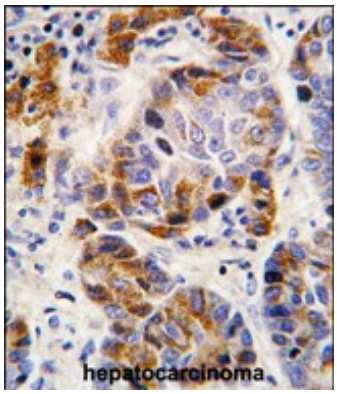
Background

ALDH4A1 belongs to the aldehyde dehydrogenase family of proteins. This enzyme is a mitochondrial matrix NAD-dependent dehydrogenase which catalyzes the second step of the proline degradation pathway, converting pyrroline-5-carboxylate to glutamate. Deficiency of this enzyme is associated with type II hyperprolinemia, an autosomal recessive disorder characterized by accumulation of delta-1-pyrroline-5-carboxylate (P5C) and proline.

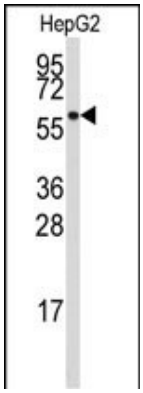
References

Yoon,K.A., J. Hum. Genet. 49 (3), 134-140 (2004)
Geraghty,M.T., Hum. Mol. Genet. 7 (9), 1411-1415 (1998)

Images

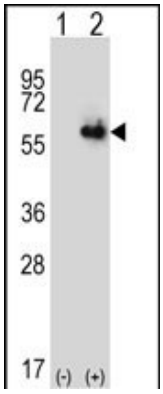


Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with ALDH4A1 antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Western blot analysis of anti-ALDH4A1 Antibody (Center) (Cat.#AP7875c) in HepG2 cell line lysates (35ug/lane). ALDH4A1(arrow) was detected using the purified Pab.

Western blot analysis of ALDH4A1 (arrow) using rabbit polyclonal ALDH4A1 Antibody (Center) (Cat.#AP7875c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the ALDH4A1 gene.



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