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ALDH18A1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8938c

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	P54886
Other Accession	Q9Z110
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB21608
Calculated MW	87302
Antigen Region	176-205

Additional Information

Gene ID	5832
Other Names	Delta-1-pyrroline-5-carboxylate synthase, P5CS, Aldehyde dehydrogenase family 18 member A1, Glutamate 5-kinase, GK, Gamma-glutamyl kinase, Gamma-glutamyl phosphate reductase, GPR, Glutamate-5-semialdehyde dehydrogenase, Glutamyl-gamma-semialdehyde dehydrogenase, ALDH18A1, GSAS, P5CS, PYCS
Target/Specificity	This ALDH18A1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 176-205 amino acids from the Central region of human ALDH18A1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	ALDH18A1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ALDH18A1
Synonyms	GSAS, P5CS, PYCS
Function	Bifunctional enzyme that converts glutamate to glutamate 5- semialdehyde, an intermediate in the biosynthesis of proline, ornithine and arginine.
Cellular Location	Mitochondrion. Mitochondrion matrix. Note=Exhibits puncta-like structures inside mitochondria under nutrient stress (PubMed:32770108). When cellular dependence on oxidative phosphorylation increases, forms filaments, which may increase its activity, and is sequestered in a subset of atypical mitochondria that lack cristae and ATP synthase (PubMed:39506109).

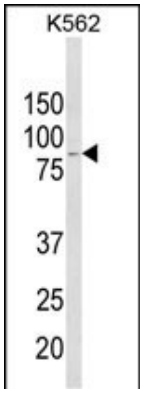
Background

ALDH18A1 is a member of the aldehyde dehydrogenase family and encodes a bifunctional ATP- and NADPH-dependent mitochondrial enzyme with both gamma-glutamyl kinase and gamma-glutamyl phosphate reductase activities. The encoded protein catalyzes the reduction of glutamate to delta1-pyrroline-5-carboxylate, a critical step in the de novo biosynthesis of proline, ornithine and arginine.

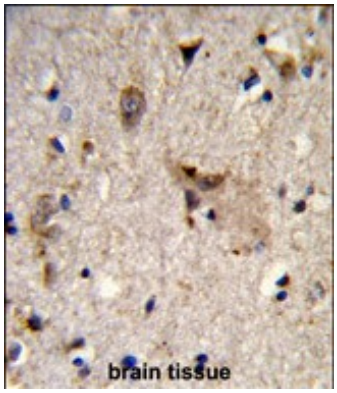
References

Hu,C.A., et.al., Amino Acids 35 (4), 665-672 (2008)
Bicknell,L.S., et.al., Eur. J. Hum. Genet. 16 (10), 1176-1186 (2008)

Images

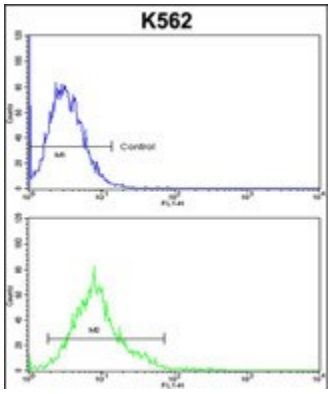


Western blot analysis of ALDH18A1 Antibody (Center) (Cat. #AP8938c) in K562 cell line lysates (35ug/lane). ALDH18A1 (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human brain tissue reacted with ALDH18A1 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.

ALDH18A1 Antibody (Center) (Cat. #AP8938c) flow cytometric analysis of k562 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary



antibodies were used for the analysis.

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