

# ALDH18A1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP8938c

## Product Information

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<b>Application</b>	WB, IHC-P, FC, E
<b>Primary Accession</b>	<a href="#">P54886</a>
<b>Other Accession</b>	<a href="#">Q9Z110</a>
<b>Reactivity</b>	Human
<b>Predicted</b>	Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Clone Names</b>	RB21608
<b>Calculated MW</b>	87302
<b>Antigen Region</b>	176-205

## Additional Information

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<b>Gene ID</b>	5832
<b>Other Names</b>	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
<b>Target/Specificity</b>	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.
<b>Dilution</b>	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
<b>Format</b>	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.
<b>Storage</b>	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.
<b>Precautions</b>	ALDH18A1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	ALDH18A1
<b>Synonyms</b>	GSAS, P5CS, PYCS
<b>Function</b>	Bifunctional enzyme that converts glutamate to glutamate 5- semialdehyde, an intermediate in the biosynthesis of proline, ornithine and arginine.
<b>Cellular Location</b>	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).

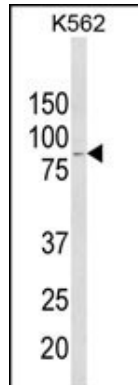
## Background

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.

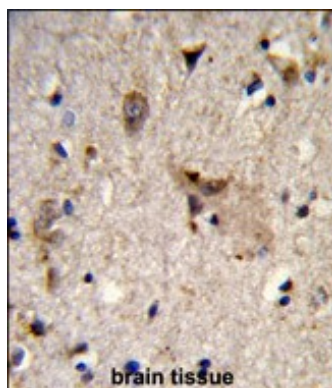
## References

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

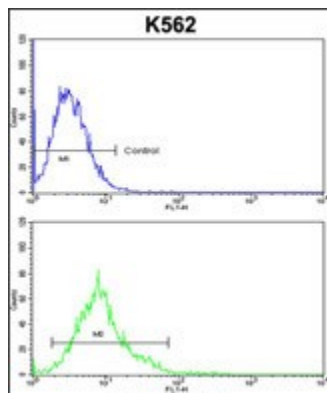


Western blot analysis of ALDH18A1 Antibody (Center) (Cat. #AP8938c) in K562 cell line lysates (35ug/lane). ALDH18A1 (arrow) was detected using the purified Pab.



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'.