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GCAT Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7498c

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	O75600
Other Accession	O88986, Q0P5L8
Reactivity	Human, Mouse
Predicted	Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB18219
Calculated MW	45285
Antigen Region	155-181

Additional Information

Gene ID	23464
Other Names	2-amino-3-ketobutyrate coenzyme A ligase, mitochondrial, AKB ligase, Aminoacetone synthase, Glycine acetyltransferase, GCAT, KBL
Target/Specificity	This GCAT antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 155-181 amino acids from the Central region of human GCAT.
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 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	GCAT Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GCAT (HGNC:4188)
Synonyms	KBL

Function	Pyridoxal phosphate (PLP) dependent enzyme, which catalyzes the cleavage of 2-amino-3-oxobutanoate to glycine and acetyl-CoA.
Cellular Location	Mitochondrion {ECO:0000250|UniProtKB:Q0P5L8}. Nucleus. Note=Translocates to the nucleus upon cold and osmotic stress.
Tissue Location	Strongly expressed in heart, brain, liver and pancreas. Also found in lung.

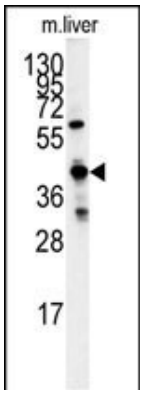
Background

The degradation of L-threonine to glycine consists of a two-step biochemical pathway involving the enzymes L-threonine dehydrogenase and 2-amino-3-ketobutyrate coenzyme A ligase. L-Threonine is first converted into 2-amino-3-ketobutyrate by L-threonine dehydrogenase. GCAT is the second enzyme in this pathway, which then catalyzes the reaction between 2-amino-3-ketobutyrate and coenzyme A to form glycine and acetyl-CoA. The enzyme is considered a class II pyridoxal-phosphate-dependent aminotransferase.

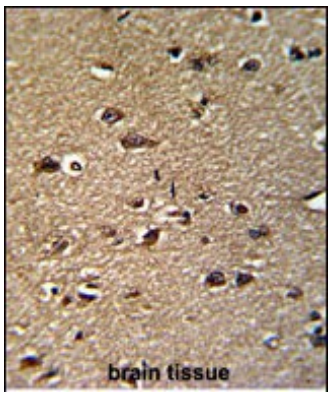
References

Edgar,A.J., Polak,J.M.Eur. J. Biochem. 267 (6), 1805-1812 (2000)
Tressel,T., Thompson,R., J. Biol. Chem. 261 (35), 16428-16437 (1986)

Images

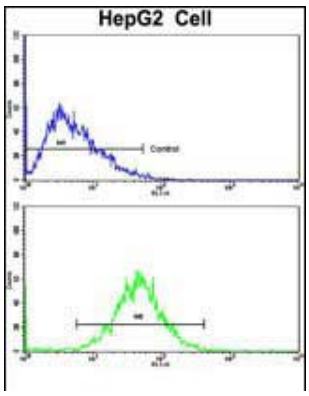


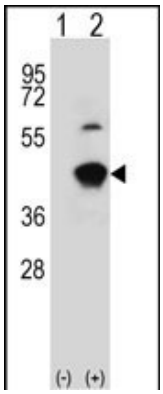
Western blot analysis of GCAT antibody (Center) (Cat.#AP7498c) in mouse liver tissue lysates (35ug/lane). GCAT (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human brain reacted with GCAT 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.

Flow cytometric analysis of HepG2 cells using GCAT Antibody (Center)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.





Western blot analysis of GCAT (arrow) using rabbit polyclonal GCAT Antibody (Center) (Cat.#AP7498c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the GCAT gene.