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GLUL Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5446

Product Information

Application	IHC-P, WB
Primary Accession	P15104
Other Accession	P46410, P15105, Q4R7U3, P16580, P15103
Reactivity	Human
Predicted	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	42064
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	2752
Antigen Region	70-96
Other Names	Glutamine synthetase, GS, Glutamate decarboxylase, Glutamate--ammonia ligase, GLUL, GLNS
Dilution	IHC-P~~1:100~500 WB~~1:1000
Target/Specificity	This GLUL antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 70-96 amino acids from the N-terminal region of human GLUL.
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	GLUL Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GLUL {ECO:0000303|PubMed:30158707, ECO:0000312|HGNC:HGNC:4341}
Function	Glutamine synthetase that catalyzes the ATP-dependent conversion of

glutamate and ammonia to glutamine (PubMed:16267323, PubMed:30158707, PubMed:36289327). Its role depends on tissue localization: in the brain, it regulates the levels of toxic ammonia and converts neurotoxic glutamate to harmless glutamine, whereas in the liver, it is one of the enzymes responsible for the removal of ammonia (By similarity). Plays a key role in ammonium detoxification during erythropoiesis: the glutamine synthetase activity is required to remove ammonium generated by porphobilinogen deaminase (HMBS) during heme biosynthesis to prevent ammonium accumulation and oxidative stress (By similarity). Essential for proliferation of fetal skin fibroblasts (PubMed:18662667). Independently of its glutamine synthetase activity, required for endothelial cell migration during vascular development: acts by regulating membrane localization and activation of the GTPase RHOJ, possibly by promoting RHOJ palmitoylation (PubMed:30158707). May act as a palmitoyltransferase for RHOJ: able to autopalmitoylate and then transfer the palmitoyl group to RHOJ (PubMed:30158707). Plays a role in ribosomal 40S subunit biogenesis (PubMed:26711351). Through the interaction with BEST2, inhibits BEST2 channel activity by affecting the gating at the aperture in the absence of intracellular L-glutamate, but sensitizes BEST2 to intracellular L-glutamate, which promotes the opening of BEST2 and thus relieves its inhibitory effect on BEST2 (PubMed:36289327).

Cellular Location

Cytoplasm, cytosol. Microsome {ECO:0000250|UniProtKB:P09606} Mitochondrion {ECO:0000250|UniProtKB:P09606}. Cell membrane; Lipid-anchor. Note=Mainly localizes in the cytosol, with a fraction associated with the cell membrane

Tissue Location

Expressed in endothelial cells.

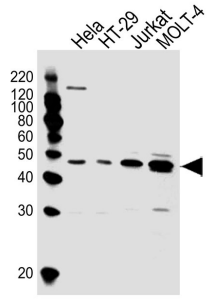
Background

GLUL belongs to the glutamine synthetase family. It catalyzes the synthesis of glutamine from glutamate and ammonia. Glutamine is a main source of energy and is involved in cell proliferation, inhibition of apoptosis, and cell signaling.

References

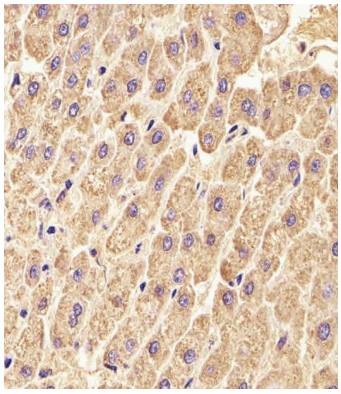
Di Tommaso,L., et.al., J. Hepatol. 50 (4), 746-754 (2009)

Images



All lanes : Anti-GLUL Antibody (N-term) at 1:1000 dilution Lane 1: Hela whole cell lysates Lane 2: HT-29 whole cell lysates Lane 3: Jurkat whole cell lysates Lane 4: MOLT-4 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/10000 dilution Predicted band size : 42 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Immunohistochemical analysis of paraffin-embedded H. liver section using GLUL Antibody (N-term)(Cat#AW5446).



AW5446 was diluted at 1:25 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.

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