10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

GLUL Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5497

Product Information

Application	WB
Primary Accession	P15104
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	42064
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	2752
Antigen Region	85-116
Other Names	Glutamine synthetase, GS, Glutamate decarboxylase, Glutamate--ammonia ligase, GLUL, GLNS
Dilution	WB~~1:1000
Target/Specificity	This GLUL antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 85-116 amino acids from the N-terminal region of human GLUL.
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.

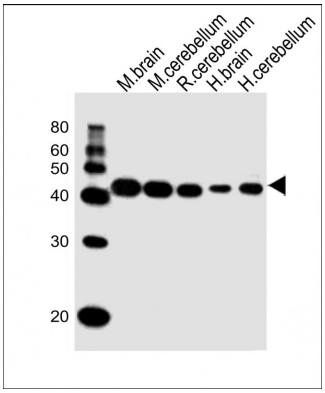
Background

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: mouse brain lysates Lane 2: mouse cerebellum lysates Lane 3: rat cerebellum lysates Lane 4: human brain lysates Lane 5: human cerebellum 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.