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

Anti-Glutamine Synthetase Antibody

Catalog # AP51233

Product Information

Application	WB, IHC
Primary Accession	P15104
Reactivity	Human, Mouse, Rat, Zebrafish, Pig, Bovine, Dog, Mk
Host	Rabbit
Clonality	Polyclonal
Calculated MW	42064

Additional Information

Gene ID	2752
Other Names	GLNS; Glutamine synthetase; GS; Glutamate decarboxylase; Glutamate--ammonia ligase
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human Glutamine Synthetase. The exact sequence is proprietary.
Dilution	WB~~ 1:4000 IHC~~1:100~500
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

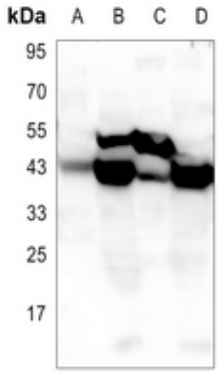
Name	GLUL {ECO:0000303|PubMed:30158707, ECO:0000312|HGNC:HGNC:4341}
Function	Glutamine synthetase that catalyzes the ATP-dependent conversion of glutamate and ammonia to glutamine (PubMed:16267323, PubMed:30158707, PubMed:36289327). Its role depends on tissue localization: in the brain, it regulates 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.

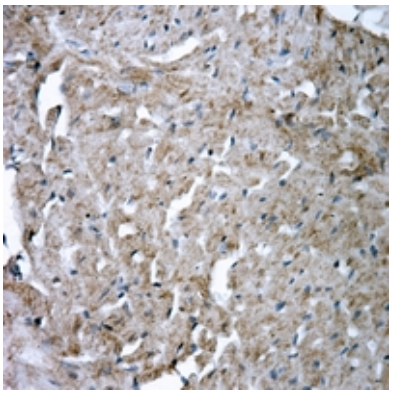
References

Gibbs C.S.,et al.Nucleic Acids Res. 15:6293-6293(1987).
van den Hoff M.J.B.,et al.Biochim. Biophys. Acta 1090:249-251(1991).
Christa L.,et al.Gastroenterology 106:1312-1320(1994).
Haberle J.,et al.Submitted (NOV-2003) to the EMBL/GenBank/DDBJ databases.
Bechtel S.,et al.BMC Genomics 8:399-399(2007).

Images



Western blot analysis of Glutamine Synthetase expression in K562 (A), rat kidney (B), rat muscle (C), rat liver (D) whole cell lysates. (Predicted band size: 42 kD; Observed band size: 42 kD)



Immunohistochemical analysis of Glutamine Synthetase staining in rat Heart formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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