

**Glutamine Synthetase Antibody**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP51233****Specification**

---

**Glutamine Synthetase Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P15104</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	49 KDa
Antigen Region	201 - 260

**Glutamine Synthetase Antibody - Additional Information****Gene ID** 2752**Other Names**

Glutamine synthetase, GS, Glutamate decarboxylase, Glutamate--ammonia ligase, GLUL, GLNS

**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

**Format**

0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%

**Storage**

Store at -20 °C. Stable for 12 months from date of receipt

**Glutamine Synthetase Antibody - 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](http://www.uniprot.org/citations/16267323), PubMed: [30158707](http://www.uniprot.org/citations/30158707), PubMed: [36289327](http://www.uniprot.org/citations/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:<a href="http://www.uniprot.org/citations/18662667" target="\_blank">18662667</a>). 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:<a href="http://www.uniprot.org/citations/30158707" target="\_blank">30158707</a>). May act as a palmitoyltransferase for RHOJ: able to autopalmitylate and then transfer the palmitoyl group to RHOJ (PubMed:<a href="http://www.uniprot.org/citations/30158707" target="\_blank">30158707</a>). Plays a role in ribosomal 40S subunit biogenesis (PubMed:<a href="http://www.uniprot.org/citations/26711351" target="\_blank">26711351</a>). 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:<a href="http://www.uniprot.org/citations/36289327" target="\_blank">36289327</a>).

#### 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

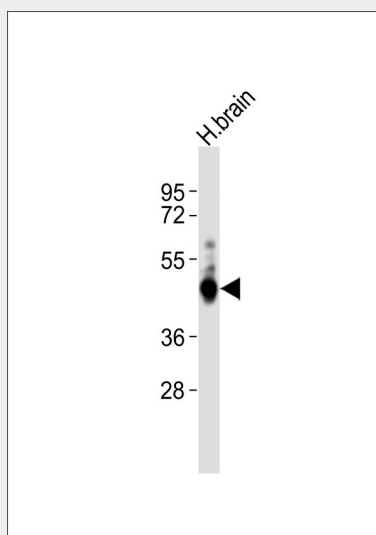
Expressed in endothelial cells.

### Glutamine Synthetase Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Glutamine Synthetase Antibody - Images



Anti-Glutamine Synthetase Antibody at 1:4000 dilution + human brain 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.

#### **Glutamine Synthetase Antibody - Background**

This enzyme has 2 functions: it catalyzes the production of glutamine and 4-aminobutanoate (gamma-aminobutyric acid, GABA), the latter in a pyridoxal phosphate-independent manner (By similarity). Essential for proliferation of fetal skin fibroblasts.

#### **Glutamine Synthetase Antibody - 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).