

KD-Validated Anti-Glutamate-ammonia ligase Rabbit Monoclonal Antibody
Rabbit monoclonal antibody
Catalog # AGI1921**Specification****KD-Validated Anti-Glutamate-ammonia ligase Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC, ICC
Primary Accession	P15104
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 42 kDa , observed, 42 kDa KDa
Gene Name	GLUL
Aliases	Glutamate-Ammonia Ligase; Glutamine Synthetase; GLNS; Palmitoyltransferase GLUL; EC 6.3.1.2; GS; Glutamate-Ammonia Ligase (Glutamine Synthase); Cell Proliferation-Inducing Protein; Proliferation-Inducing Protein; Glutamate--Ammonia Ligase; Glutamate Decarboxylase; Glutamine Synthase; EC 2.3.1.225; PIG43; PIG59
Immunogen	A synthesized peptide derived from human Glutamine Synthetase

KD-Validated Anti-Glutamate-ammonia ligase Rabbit Monoclonal Antibody - Additional Information

Gene ID 2752

Other Names

Glutamine synthetase, GS, 6.3.1.2, Glutamate--ammonia ligase, Palmitoyltransferase GLUL, 2.3.1.225, GLUL {ECO:0000303|PubMed:30158707, ECO:0000312|HGNC:HGNC:4341}

KD-Validated Anti-Glutamate-ammonia ligase Rabbit Monoclonal 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, 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

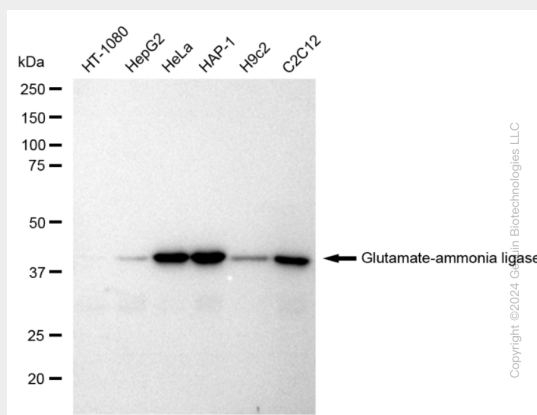
Expressed in endothelial cells.

KD-Validated Anti-Glutamate-ammonia ligase Rabbit Monoclonal Antibody - Protocols

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

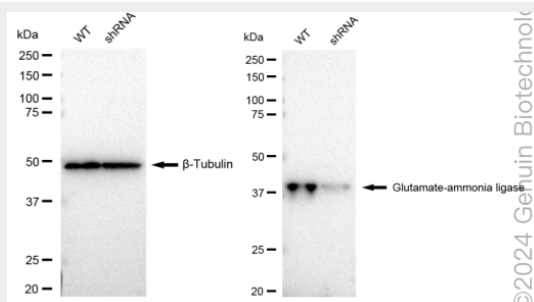
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

KD-Validated Anti-Glutamate-ammonia ligase Rabbit Monoclonal Antibody - Images

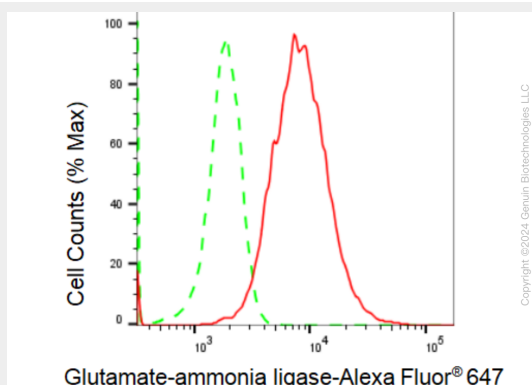


Western blotting analysis using anti-Glutamate-ammonia ligase antibody (Cat#63474). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was

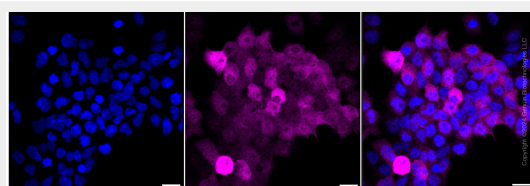
incubated with anti-Glutamate-ammonia ligase antibody (Cat#63474, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (Cat#201, 1:20,000) respectively. Image was developed using FeQ™ ECL Substrate Kit (Cat#226).



Western blotting analysis using anti-Glutamate-ammonia ligase antibody (Cat#63474). Glutamate-ammonia ligase expression in wild type (WT) and Glutamate-ammonia ligase shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-Glutamate-ammonia ligase antibody (Cat#63474, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (Cat#201, 1:20,000) respectively. Image was developed using FeQ™ ECL Substrate Kit (Cat#226).



Flow cytometric analysis of Glutamate-ammonia ligase expression in HeLa cells using Glutamate-ammonia ligase antibody (Cat#63474, 1:2,000). Green, isotype control; red, Glutamate-ammonia ligase.



Immunocytochemical staining of HeLa cells with Glutamate-ammonia ligase antibody (Cat#63474, 1:1,000). Nuclei were stained blue with DAPI; Glutamate-ammonia ligase was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.