**Product Name: KD-Validated Glutamate-Ammonia Ligase Recombinant Rabbit Monoclonal Antibody**

**Catalog #: KVAb00678**

For research use only.

## Summary

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| **Description** | KO&KD-Validated antibody |
| **Host** | Rabbit |
| **Application** | WB,FCM,ICC,IHC-P |
| **Reactivity** | Human,Mouse,Rat |
| **Conjugation** | Unconjugated |
| **Modification** | Unmodified |
| **Isotype** | Rabbit IgG |
| **Clonality** | Rabbit mAb |
| **Form** | Liquid |
| **Storage** | Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles. |
| **Shipping** | Ice bags |
| **Buffer** | Supplied in PBS (pH 7.4) containing 50% glycerol, and 0.02% sodium azide. |
| **Purification** | Affinity purification |

## Application

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|---|---|
| **Dilution Ratio** | WB 1:1,000-1:5,000; FC 1:200-1:2,000; ICC 1:100-1:1,000; IHC-P 1:100-1:200 |
| **Molecular Weight** | Calculated MW: 42.1kDa |

## Antigen Information

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| **Gene Name** | GLUL |
| **Alternative Names** | 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 |
| **Gene ID** | 2752.0 |
| **SwissProt ID** | P15104 |
| **Immunogen** | A synthesized peptide derived from human Glutamine Synthetase |

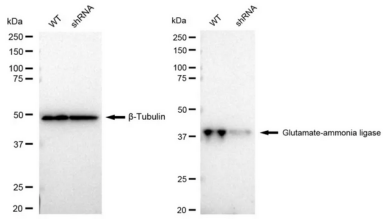
## Background

The protein encoded by this gene belongs to the glutamine synthetase family. It catalyzes the synthesis of glutamine from glutamate and ammonia in an ATP-dependent reaction. This protein plays a role in ammonia and glutamate detoxification, acid-base homeostasis, cell signaling, and cell proliferation. Glutamine is an abundant amino acid, and is important to the biosynthesis of several amino acids, pyrimidines, and purines. Mutations in this gene are associated with congenital glutamine deficiency, and overexpression of this gene was observed in some primary liver cancer samples. There are six pseudogenes of this gene found on chromosomes 2, 5, 9, 11, and 12. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Dec 2014]

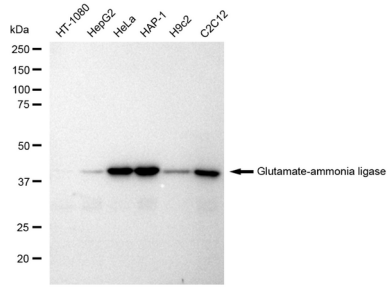
## Research Area

Neuroscience

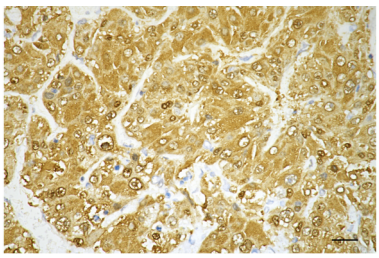
## Image Data



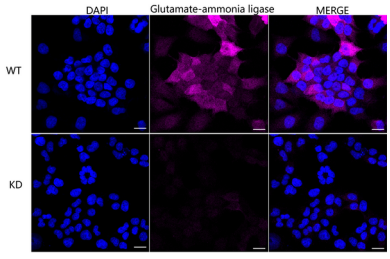

Western blotting analysis using Glutamate-ammonia ligase antibody (KVAb00678). Glutamate-ammonia ligase expression in wild type (WT) and Glutamate-ammonia ligase shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with Glutamate-ammonia ligase antibody (KVAb00678, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



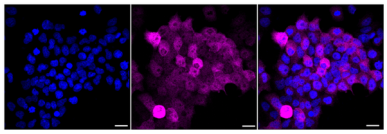

Western blotting analysis using Glutamate-ammonia ligase antibody (KVAb00678). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with Glutamate-ammonia ligase antibody (KVAb00678, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



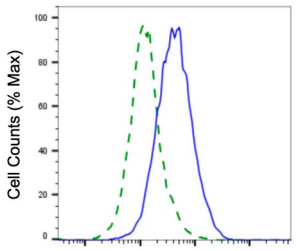
Immunohistochemistry was performed on paraffin-embedded human hepatocarcinoma using Glutamate-ammonia ligase antibody (KVAb00678, 1:200). Antigen retrieval was done in sodium citrate buffer (pH 6.0). DAB was used for detection, with hematoxylin counterstaining. Images were acquired using a Nikon Ci-L Plus microscope (40× objective). Scale bar: 25 µm.




Immunocytochemical staining of HeLa cells using Glutamate-ammonia ligase antibody (KVAb00678, 1:1,000), Top panel: wild-type (WT); Bottom panal: Glutamate-ammonia ligase shRNA knockdown (KD). Nuclei were stained blue with DAPI; Glutamate-ammonia ligase was stained magenta with Alexa Fluor® 647. Scale bar, 20 µm. Permeabilization: Triton.

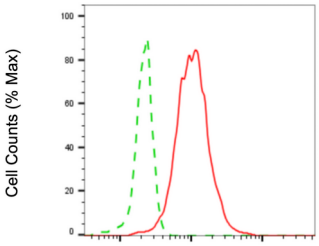


Immunocytochemical staining of HeLa cells with Glutamate-ammonia ligase antibody (KVAb00678, 1:1,000). Nuclei were stained blue with DAPI; Glutamate-ammonia ligase was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.




Glutamate-ammonia ligase-Alexa Fluor® 647

Validation of Glutamate-ammonia ligase knockdown using flow cytometry. Wild-type(WT, Blue) and knockdown(KD, Green) HeLa cells were stained with Glutamate-ammonia ligase antibody (KVAb00678, 1:2,000) and analyzed using CytoFLEX.




Glutamate-ammonia ligase-Alexa Fluor® 647

Flow cytometric analysis of glutamate-ammonia ligase expression in HeLa cells using glutamate-ammonia ligase antibody (KVAb00678, 1:2,000). Green, isotype control; red, glutamate-ammonia ligase.