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# GLS Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8809B

## Product Information

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| **Application** | WB, IF, FC, IHC-P-Leica, E |
| **Primary Accession** | O94925 |
| **Other Accession** | P13264, D3Z7P3 |
| **Reactivity** | Human, Mouse, Rat |
| **Predicted** | Rat, Bovine, Canine, Rabbit, Chicken |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Calculated MW** | 73461 |
| **Antigen Region** | 516-545 |

## Additional Information

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| **Gene ID** | 2744 |
| **Other Names** | Glutaminase kidney isoform, mitochondrial, GLS, K-glutaminase, L-glutamine amidohydrolase, GLS, GLS1, KIAA0838 |
| **Target/Specificity** | This GLS antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 516-545 amino acids from the C-terminal region of human GLS. |
| **Dilution** | WB~~1:1000 IF~~1:25 FC~~1:25 IHC-P-Leica~~1:500 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification. |
| **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** | GLS Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | GLS |
| **Synonyms** | GLS1, KIAA0838 |

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| **Function** | Catalyzes the first reaction in the primary pathway for the renal catabolism of glutamine. Plays a role in maintaining acid-base homeostasis. Regulates the levels of the neurotransmitter glutamate, the main excitatory neurotransmitter in the brain (PubMed:30239721, PubMed:30575854, PubMed:30970188). |
| **Cellular Location** | [Isoform 1]: Mitochondrion {ECO:0000250\|UniProtKB:P13264}. Cytoplasm, cytosol. Note=The 74-kDa cytosolic precursor is translocated into the mitochondria and processed via a 72-kDa intermediate to yield the mature 68- and 65-kDa subunits {ECO:0000250\|UniProtKB:P13264} [Glutaminase kidney isoform, mitochondrial 68 kDa chain]: Mitochondrion matrix {ECO:0000250\|UniProtKB:P13264} Note=Produced by the proteolytic processing of the 74-kDa cytosolic precursor. {ECO:0000250\|UniProtKB:P13264} |
| **Tissue Location** | Isoform 1 and isoform 3 are detected in brain cortex. Isoform 3 is highly expressed in astrocytoma, ganglioglioma and ependymoma. Isoform 1 is highly expressed in brain and kidney, but not detected in liver. Isoform 3 is highly expressed in heart and pancreas, detected at lower levels in placenta, lung, pancreas and kidney, but is not detected in liver. Isoform 2 is expressed in cardiac and skeletal muscle. |

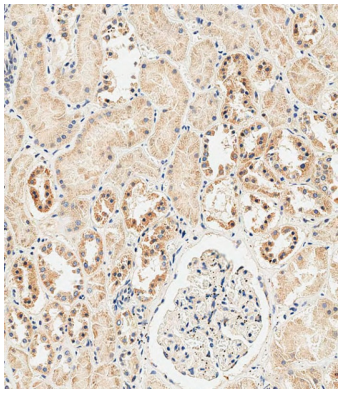
## Background

Sahai (1983) demonstrated phosphate-activated glutaminase (EC 3.5.1.2) in human platelets. It is the major enzyme yielding glutamate from glutamine. Significance of the enzyme derives from its possible implication in behavior disturbances in which glutamate acts as a neurotransmitter(Prusiner, 1981). High heritability of platelet glutaminase was indicated by studies of Sahai and Vogel (1983) [PubMed 6682827] who found an intraclass correlation coefficient of 0.96 for monozygotic twins and 0.53 for dizygotic twins.

## References

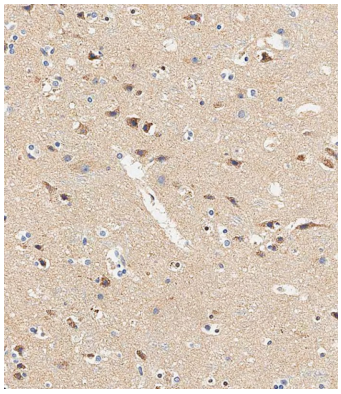
Swierczynski,J., et.al., Biochim. Biophys. Acta 1157 (1), 55-62 (1993)

## Images

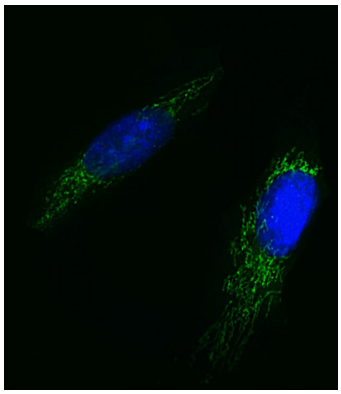


Immunohistochemical analysis of paraffin-embedded Human kidney tissue using AP8809B performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.

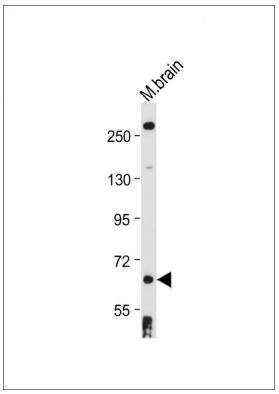
Immunohistochemical analysis of paraffin-embedded Human brain tissue using AP8809B performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:500) for 1 hours at room temperature. A undiluted biotinylated CRF



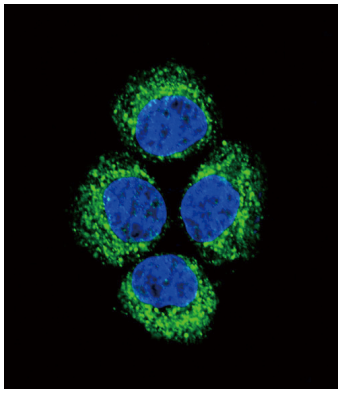
Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0. 1% Triton X-100 permeabilized U-251 MG cells labeling GLS with AP8809B at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-Rabbit IgG secondary antibody at 1/200 dilution (green). Immunofluorescence image showing Cytoplasm staining on U-251 MG cell line. The nuclear counter stain is DAPI (blue).

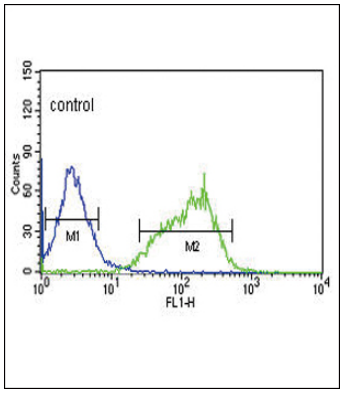



Anti-GLS Antibody (C-term) at 1:2000 dilution + Mouse brain tissue lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 73 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Confocal immunofluorescent analysis of GLS Antibody (C-term) (Cat. #AP8809b) with Hela cell followed by Alexa Fluor寨?489-conjugated goat anti-rabbit lgG (green). DAPI was used to stain the cell nuclear (blue).

GLS Antibody (C-term) (Cat. #AP8809b) flow cytometric analysis of HepG2 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.




## Citations

- Neddylation inhibition induces glutamine uptake and metabolism by targeting CRL3 E3 ligase in cancer cells
- β-catenin represses miR455-3p to stimulate m6A modification of HSF1 mRNA and promote its translation in colorectal cancer
- Vitamin D regulation of HAS2, hyaluronan synthesis and metabolism in triple negative breast cancer cells
- Liver-Type Glutaminase GLS2 Is a Druggable Metabolic Node in Luminal-Subtype Breast Cancer
- Heat Shock Factor 1 Epigenetically Stimulates Glutaminase-1-Dependent mTOR Activation to Promote Colorectal Carcinogenesis.
- CXXC4 activates apoptosis through up-regulating GDF15 in gastric cancer.
- The oncogenic transcription factor c-Jun regulates glutaminase expression and sensitizes cells to glutaminase-targeted therapy.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.