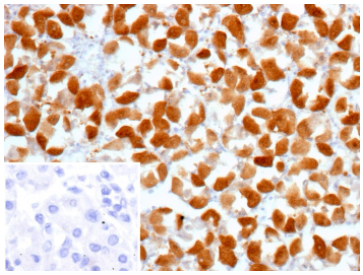
GLUL Antibody / Glutamine synthetase [clone GLUL/12902R] (V5907)

Catalog No.	Formulation	Size
V5907-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5907-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V5907SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

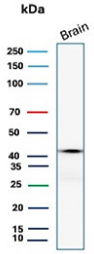
Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	GLUL/12902R
UniProt	P15104
Localization	Cytoplasm, Mitochondrion
Applications	Immunohistochemistry (FFPE): 1-2ug/ml Western Blot: 2-4ug/ml
Limitations	This GLUL/Glutamine synthetase antibody is available for research use only.



Formalin-fixed, paraffin-embedded human stomach tissue stained with recombinant GLUL/Glutamine synthetase antibody (clone GLUL/12902R). Strong cytoplasmic brown chromogenic staining is observed in gastric epithelial cells, consistent with Glutamine synthetase expression, while nuclei are counterstained blue. Inset shows a PBS-only negative control processed without primary antibody, demonstrating minimal non-specific background staining.



Western blot analysis of GLUL Antibody for WB in human brain tissue lysate. Lane 1: human brain lysate. A band is detected at approximately 42 kDa, consistent with the predicted molecular weight of Glutamate-ammonia ligase (Glutamine synthetase / GLUL). The recombinant rabbit monoclonal antibody GLUL/12902R was used for immunoblot detection.

Description

Glutamate-ammonia ligase is a cytosolic enzyme encoded by the GLUL gene and commonly referred to as Glutamine synthetase. GLUL Antibody for WB GLUL/12902R is developed for western blot detection of this key metabolic enzyme in protein lysates. GLUL catalyzes the ATP-dependent conversion of glutamate and ammonia into glutamine and plays an essential role in nitrogen metabolism, neurotransmitter recycling, and cellular metabolic regulation.

In western blot experiments, glutamine synthetase typically appears as a band near its predicted molecular weight of approximately 42 kDa on SDS-PAGE. Brain and liver lysates frequently produce strong immunoreactive signal because GLUL expression is enriched in astrocytes of the central nervous system and in pericentral hepatocytes within the liver. These tissues are therefore commonly used as positive controls in immunoblot workflows evaluating glutamine synthetase expression. Other tissues and cultured cell lines may show weaker bands depending on metabolic activity and cellular dependence on glutamine synthesis.

Western blot analysis is particularly useful for evaluating relative GLUL protein levels across tissues or experimental treatments. Because glutamine synthetase is a soluble cytoplasmic enzyme, it is typically extracted efficiently using standard detergent-based lysis buffers such as RIPA or NP-40. After electrophoresis and membrane transfer, GLUL most often appears as a single predominant immunoreactive band corresponding to the full-length protein, allowing clear interpretation of immunoblot results. In some samples, minor band variation may occur due to protein turnover products or post-translational modifications, but the dominant species generally aligns with the expected molecular size.

Immunoblot-based detection of GLUL is frequently used in studies examining metabolic regulation, hypoxia responses, and tumor-associated metabolic reprogramming. Altered glutamine synthetase expression has been described in hepatocellular carcinoma and other malignancies, where western blot analysis can help evaluate metabolic pathway activation and glutamine dependence. As a recombinant rabbit monoclonal reagent, GLUL Antibody for WB GLUL/12902R provides consistent target recognition suitable for immunoblot analysis of glutamine synthetase protein expression across diverse experimental systems.

Application Notes

1. Optimal dilution of the GLUL/Glutamine synthetase antibody should be determined by the researcher.

2. This GLUL/Glutamine synthetase antibody is recombinantly produced by expression in CHO cells.

Immunogen

A recombinant fragment (around amino acids 100-200) of human GLUL protein (exact sequence is proprietary) was used as the immunogen for the GLUL/Glutamine synthetase antibody.

Storage

GLUL/Glutamine synthetase antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

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