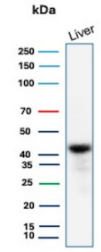
GLUL Antibody Recombinant Mouse MAb / Glutamine Synthetase [clone rGLUL/8620] (V4712)

Catalog No.	Formulation	Size
V4712-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4712-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4712SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

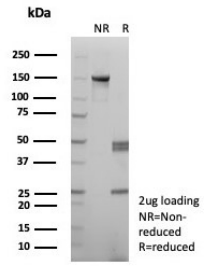
Recombinant | MOUSE MONOCLONAL

Bulk quote request

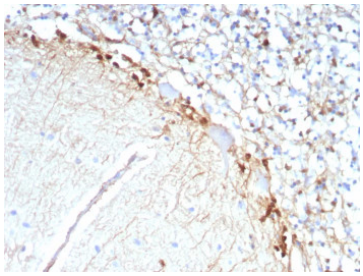
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rGLUL/8620
Purity	Protein A/G affinity
UniProt	P15104
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT Western Blot : 2-4ug/ml
Limitations	This recombinant GLUL antibody is available for research use only.



GLUL Antibody Recombinant Mouse MAb Liver WB. Western blot analysis of human liver lysate using GLUL Antibody recombinant mouse monoclonal clone rGLUL/8620. A distinct band is detected at approximately 42-45 kDa, consistent with the predicted molecular weight of Glutamate-ammonia ligase / GLUL, a glutamine-synthesizing enzyme involved in nitrogen metabolism and maintenance of hepatic amino acid homeostasis. Mild lower molecular weight signal broadening beneath the primary band likely reflects minor degradation products or partially processed GLUL species commonly observed in liver tissue lysates.



SDS-PAGE analysis of purified, BSA-free recombinant GLUL antibody (clone rGLUL/8620) as confirmation of integrity and purity.



GLUL Antibody Recombinant Mouse MAb Brain IHC. Immunohistochemistry of GLUL Antibody Recombinant Mouse MAb rGLUL/8620 in human brain tissue. Formalin-fixed, paraffin-embedded human brain sections demonstrate cytoplasmic HRP-DAB brown staining in glial cell populations consistent with Glutamate-ammonia ligase (Glutamine synthetase) localization. Staining is observed along the neuropil and in astrocytic cell bodies, while neuronal nuclei remain unstained. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 min followed by cooling prior to antibody incubation.

Description

Glutamate-ammonia ligase is a cytosolic enzyme encoded by the GLUL gene and commonly referred to as Glutamine synthetase. GLUL Antibody Recombinant Mouse MAb rGLUL/8620 is developed to detect this key metabolic enzyme, which catalyzes the ATP-dependent conversion of glutamate and ammonia into glutamine. This reaction is central to nitrogen metabolism, ammonia detoxification, and maintenance of intracellular glutamine pools. The GLUL gene is located on chromosome 1q31.3 and exhibits regulated, tissue-specific expression patterns.

Glutamine synthetase shows highly characteristic distribution in normal tissues. In the liver, expression is typically restricted to pericentral hepatocytes surrounding central veins, forming a distinct zonal pattern that reflects metabolic compartmentalization within the hepatic lobule. In the central nervous system, GLUL is enriched in astrocytes, where it supports the glutamate-glutamine cycle and contributes to neurotransmitter homeostasis. In these cells, the enzyme localizes to the cytoplasm and is distributed throughout the cell body and processes.

Expression can also be detected in kidney, skeletal muscle, and selected epithelial tissues depending on metabolic demand. In tumor biology, altered glutamine synthetase expression has been described in hepatocellular carcinoma and other malignancies, where GLUL upregulation may correlate with pathway activation and metabolic reprogramming. These distinct patterns make GLUL a valuable marker in studies examining metabolic zonation, astrocyte biology, and cancer-associated metabolic adaptation.

As a recombinant mouse monoclonal reagent, GLUL Antibody Recombinant Mouse MAb rGLUL/8620 provides defined target recognition with consistent performance across research applications. Positive cells typically demonstrate diffuse to granular cytoplasmic staining consistent with the known intracellular localization of glutamine synthetase. This antibody supports investigation of metabolic regulation and tissue-specific expression of GLUL in normal and disease contexts.

Application Notes

Optimal dilution of the GLUL antibody recombinant mouse mAb rGLUL/8620 should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 1-200) from the human protein was used as the immunogen for the GLUL antibody.

Storage

Aliquot the recombinant GLUL antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.