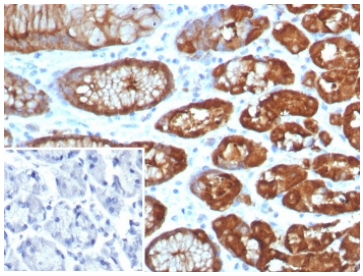
GLUL Antibody Recombinant Rabbit MAb / Glutamine Synthetase [clone GLUL/8256R] (V4762)

Catalog No.	Formulation	Size
V4762-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4762-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4762SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	GLUL/8256R
Purity	Protein A/G affinity
UniProt	P15104
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This GLUL antibody is available for research use only.



Immunohistochemistry of GLUL Antibody Recombinant Rabbit MAb GLUL/8256R in human brain tissue. Formalin-fixed, paraffin-embedded human brain sections demonstrate cytoplasmic HRP-DAB brown staining consistent with Glutamate-ammonia ligase (Glutamine synthetase) expression. Positive staining is observed within glial cell populations distributed throughout the neuropil, while neuronal nuclei remain unstained. The inset panel shows PBS used in place of primary antibody as a negative control with minimal background signal. 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 widely known as Glutamine synthetase. GLUL Antibody Recombinant Rabbit mAb GLUL/8256R is developed to detect this essential metabolic enzyme, which catalyzes the ATP-dependent conversion of glutamate and ammonia into glutamine. This reaction is central to nitrogen metabolism, ammonia detoxification, and regulation of intracellular glutamine pools. The GLUL gene is located on chromosome 1q31.3 and is expressed in a tissue-restricted and metabolically regulated manner.

Glutamine synthetase exhibits highly characteristic expression patterns in normal tissues. In liver, GLUL is predominantly localized to pericentral hepatocytes surrounding central veins, forming a sharply demarcated zonal staining pattern that reflects metabolic compartmentalization within the hepatic lobule. In the central nervous system, the enzyme is enriched in astrocytes, where it participates in the glutamate-glutamine cycle and supports neurotransmitter recycling. In these cells, GLUL localizes to the cytoplasm and is distributed throughout the cell body and processes within the neuropil.

Expression can also be detected in kidney, skeletal muscle, and selected epithelial tissues depending on metabolic demand. In oncology research, altered glutamine synthetase levels have been described in hepatocellular carcinoma and other tumor types, where GLUL upregulation may correlate with activation of specific signaling pathways and metabolic reprogramming. These biologically distinct expression patterns make GLUL a valuable marker in studies evaluating tissue differentiation, metabolic zonation, and tumor-associated metabolic adaptation.

As a recombinant rabbit monoclonal reagent, GLUL Antibody Recombinant Rabbit mAb GLUL/8256R 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, astrocyte biology, liver zonation, and cancer-associated alterations in glutamine metabolism.

Application Notes

Optimal dilution of the GLUL antibody recombinant rabbit mAb GLUL/8256R should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 200-373) from the human protein was used as the immunogen for the GLUL antibody.

Storage

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

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