

Glutamine synthetase

Cat.No. 367 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For reconstitution add 100 µl H ₂ O, then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 (AP staining) IP: not tested yet ICC: not tested yet IHC: 1 : 500 (see remarks) IHC-P/FFPE: not tested yet
Immunogen	Recombinant protein corresponding to AA 2 to 373 from mouse Glutamine synthetase (UniProt Id: P15105)
Reactivity	Reacts with: rat (P09606), mouse (P15105). Other species not tested yet.
Specificity	Specific for Glutamine synthetase.
Remarks	IHC: For minimal background, the affinity purified antibody cat. no. 367 005 is recommended

Selected General References

- Astrocyte glutamine synthetase: pivotal in health and disease.
Rose CF, Verkhratsky A, Parpura V
Biochemical Society transactions (2013) 41(6): 1518-24.
- Regulation of astrocyte glutamine synthetase in epilepsy.
Eid T, Tu N, Lee TS, Lai JC
Neurochemistry international (2013) 63(7): 670-81.
- Crystal structure of domains 3 and 4 of rat CD4: relation to the NH2-terminal domains.
Brady RL, Dodson EJ, Dodson GG, Lange G, Davis SJ, Williams AF, Barclay AN
Science (New York, N.Y.) (1993) 260(5110): 979-83.

TO BE USED IN VITRO / FOR RESEARCH ONLY

NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Glutamine synthetase, also referred to as **Glutamate-ammonia ligase** or **GS**, is an enzyme that catalyzes the ATP-dependent condensation of glutamate with ammonia to yield glutamine. It is present predominantly in brain, kidneys, and liver. In the brain, it is particularly found in astrocytes. Glutamine synthetase plays a pivotal role in glutamate and glutamine homoeostasis, and it is largely responsible for the removal of both blood-derived and metabolically generated ammonia, preventing neurotoxicity. It is also a key enzyme in the recycling of the neurotransmitter glutamate. Several studies indicated that the expression, distribution, and activity of brain glutamine synthetase is altered in some brain disorders, including Alzheimer's disease, schizophrenia, depression, suicidality, and mesial temporal lobe epilepsy (MTLE).