

## Glutamine synthetase

Cat.No. 367 005; Polyclonal Guinea pig antibody, 50 µg specific antibody (lyophilized)

### Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Guinea pig serum albumin was added for stabilization. For reconstitution add 50 µl H <sub>2</sub> O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	<b>WB:</b> 1 : 1000 (AP staining) <b>IP:</b> not tested yet <b>ICC:</b> not tested yet <b>IHC:</b> 1 : 500 <b>IHC-P/FFPE:</b> 1 : 500
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.

**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 homeostasis, 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).

### Selected References SYSY Antibodies

Lysophosphatidic acid activates satellite glia cells and Schwann cells.  
Robering JW, Gebhardt L, Wolf K, Kühn H, Kremer AE, Fischer MJM  
Glia (2019) : . **IHC; tested species: mouse**

### 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 NH<sub>2</sub>-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.