

GAD 1 / GAD 67

Cat.No. 198 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Azide was added before lyophilization. For reconstitution add 100 µl H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: yes IP: yes ICC: 1 : 500 IHC: not recommended IHC-P/FFPE: not tested yet
Clone	120G4
Subtype	IgG1 (κ light chain)
Immunogen	Recombinant protein corresponding to AA 3 to 101 from mouse GAD1 (UniProt Id: P48318)
Epitop	Epitop: AA 3 to 101 from mouse GAD1 (UniProt Id: P48318)
Reactivity	Reacts with: rat (P18088), mouse (P48318). Other species not tested yet.
Specificity	Specific for GAD 1 / GAD67.

TO BE USED IN VITRO / FOR RESEARCH ONLY NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

The **glutamic acid decarboxylases GAD 1**, also referred to as **GAD 67**, and GAD 2 / GAD 65 synthesize γ-aminobutyric acid (GABA), the major inhibitory neurotransmitter in the central nervous system. The hydrophilic GAD 1 can heterodimerize with the membrane anchored GAD 2 and part of GAD 1 is targeted to inhibitory nerve terminals by this mechanisms. Although both proteins exhibit significant differences in their N-terminus they share high homology in the rest of the molecule. GADs are widely used markers for the GABAergic system. In type 1 diabetes GAD 1 has been identified as a major autoantigen.

Selected References SYSY Antibodies

Cellular distribution of the NMDA-receptor activated synapto-nuclear messenger Jacob in the rat brain. Mikhaylova M, Karpova A, Bär J, Bethge P, YuanXiang P, Chen Y, Zuschratter W, Behnisch T, Kreutz MR Brain structure & function (2014) 219(3): 843-60. **ICC**

Selected General References

A specific role for NR2A-containing NMDA receptors in the maintenance of parvalbumin and GAD67 immunoreactivity in cultured interneurons.

Kinney JW, Davis CN, Tabarean I, Conti B, Bartfai T, Behrens MM

The Journal of neuroscience : the official journal of the Society for Neuroscience (2006) 26(5): 1604-15.

Green fluorescent protein expression and colocalization with calretinin, parvalbumin, and somatostatin in the GAD67-GFP knock-in mouse.

Tamamaki N, Yanagawa Y, Tomioka R, Miyazaki J, Obata K, Kaneko T

The Journal of comparative neurology (2003) 467(1): 60-79.

The hydrophilic isoform of glutamate decarboxylase, GAD67, is targeted to membranes and nerve terminals independent of dimerization with the hydrophobic membrane-anchored isoform, GAD65.

Kanaani J, Lissin D, Kash SF, Baekkeskov S

The Journal of biological chemistry (1999) 274(52): 37200-9.

Differential expression of GAD65 and GAD67 in human, rat, and mouse pancreatic islets.

Kim J, Richter W, Aanstoot HJ, Shi Y, Fu Q, Rajotte R, Warnock G, Baekkeskov S

Diabetes (1993) 42(12): 1799-808.

Glutamate decarboxylases in nonneural cells of rat testis and oviduct: differential expression of GAD65 and GAD67.

Tillakaratne NJ, Erlander MG, Collard MW, Greif KF, Tobin AJ

Journal of neurochemistry (1992) 58(2): 618-27.