



Product Specification Sheet

**Mouse Glutamate Decarboxylase 67 (GAD67/GAD1)**

- Cat. GAD671-R-10** Recombinant purified Mouse Glutamic acid decarboxylase 67 (GAD67) protein **SIZE:** 10 ug
- Cat. GAD671-R-50** Recombinant purified Mouse Glutamic acid decarboxylase 65 (GAD65) protein **SIZE:** 50 ug

$\gamma$ -Aminobutyric acid (GABA) is the major known inhibitory neurotransmitter. The rate-limiting step in the synthesis of GABA is the decarboxylation of glutamate by glutamate decarboxylase (GAD; L-glutamate 1-carboxy-lyase, EC 4.1.1.15). In the CNS GAB is entirely restricted to GABAergic neurons. GAD is also present in the  $\beta$ -cells of the pancreas and autoantibodies to various GAD polypeptides are detected in insulin-dependent diabetes mellitus. Cloning of GAD genes have identified two subtypes: GAD65 (65 kDa; human 585 AA chromosome 10) and GAD67 (67 kDa; human 594 AA, chromosome 2) share approx. 65% amino acid homology. The N-terminus is the most divergent while the C-terminus is highly conserved. Although both GAD isoforms catalyzes the conversion of GABA but interact differently with the co-factor pyridoxal 5'-phosphate suggesting their activities are differentially regulated. GAD67 is cytosolic, while GAD65 is membrane associated. GAD65 is a major autoantigen in diabetes mellitus and stiff-man syndrome, a rare disease of the brain.

**Source of Antigen and Antibodies**

Mouse GAD67/GAD1 protein (protein accession # BC027059) was expressed as His-tag fusion protein in E. coli and purified (>95%). Purified mouse GAD1 protein is supplied in 50mM Tris-HCl, pH 8.0, 250mM NaCl, 0.75% sodium lauroyl Sarcosine, 1mM EDTA, 10mM beta-mercapto-ethanol at a conc. of 1mg/ml (lot specific conc. is provided on the vial). Store at -20°C or below. Avoid frequent freeze and thaw.

**Biological activity** not tested.

**Storage**

**Short-term:** unopened, undiluted liquid vials at -20°C and powder at 4°C or -20°C.

**Long-term:** at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability:** 6-12 months at -20°C or below.

**Recommended Usage**

**Western Blotting  
ELISA**

**General References:** Erlanger MG et al (1991) Neuron 7, 91-100, Dirkx R et al (1995) J Biol. Chem. 270, 2241; Solimena, M (unpublished results on file).

**Shipping:** 4°C for solutions and room temp for powder

\*This product is for in vitro research use only.

**Related material available from ADI**

Anti-GAD65; Anti-GABA, -Glutamate transporter; Anti-Vesicular GABA transporter (VGAT)

**Western Blot recycling kit** (Use the same blot to probe with multiple antibodies GAD65 and GAD67) **recycle blot at room temp in 5-10 min;** No mercaptoethanol or heating required).

GAD671-R-10-50

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