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MOUSE ANTI-GLUTAMIC ACID DECARBOXYLASE MONOCLONAL ANTIBODY

CATALOG NUMBER:	MAB351	**QUANTITY:**	100 µg
LOT NUMBER:		**HOST/ISOTYPE:**	IgG_{2a}
CLONE NAME:	GAD-6		

BACKGROUND

The enzyme glutamic acid decarboxylase (GAD) catalyzes the synthesis of g-aminobutyric acid (GABA), the major inhibitory neurotransmitter in the central nervous system (1). GAD is the rate-limiting enzyme in the biosynthesis of GABA from L-glutamic acid, and it is used extensively as a marker for GABAergic neurons and synaptic terminals (2–3). GAD has been observed in pancreatic islet cells and identified as an autoantigen associated with the development of insulin-dependent diabetes mellitus (4).

SPECIFICITY:

Anti-GAD clone GAD-6 recognizes the lower molecular weight isoform (65 kDa) of the two GAD isoforms identified in brain (5–6). This monclonal antibody can be used for immunohistochemical localization in brain or pancreas. Anti-GAD has also been used to label purified GAD on Western blots (6).

IMMUNOGEN:

Purified rat brain glutamic acid decarboxylase.

APPLICATIONS:

Immunohistochemistry: ≤ 1 µg/mL * See protocol on back.
Western blot
Optimal working dilutions must be determined by end user.

SPECIES REACTIVITY:

Rat

FORMAT:

Purified immunoglobulin.

PRESENTATION:

Lyophilized.
Dissolve contents of vial in 100 µl of sterile, distilled water. This results in a final antibody concentration of 1 mg/ml in 0.01 M PBS; pH 7.4, 0.02% Sodium Azide.

STORAGE/HANDLING:

Maintain lyophilized material at -20°C for up to 12 months after date of receipt. After reconstitution maintain frozen at -20°C in undiluted aliquots for up to 6 months. Avoid repeated freeze/thaw cycles.

REFERENCES:

1. Atkinson, L., et al., Neuroscience (2004) **123**:761-768.
2. Liu, S., et al., J. Neuroscience (2003) **23**:in press.
3. J. Neuroscience (1988) **8**:2123.
4. PNAS.USA (1986) **83**:8808-8812.

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APPLICATION NOTES FOR MAB351

IMMUNOHISTOCHEMISTRY

1) Perfuse rats with 100 mM phosphate buffer, pH 7.4 containing 1% paraformaldehyde, 0.34% L-lysine and 0.05% m-periodate (1% PLP).

2) Postfix brains in 1% PLP for 1-2 hours.

3) Transfer brains to 100 mM phosphate buffer containing 30% sucrose and gently agitate on a shaker platform at +4°C for 48-60 hours.

4) Using a sliding microtome, cut 30 μm sections of frozen cerebellum. As the sections are cut, collect them in a vial of cold 100 mM phosphate buffer.

5) Incubate sections in PBS containing 1.5% normal serum and 0.2% Triton X-100 for 30 minutes.

6) On a shaker platform, incubate sections with MAB351 (diluted 1 μg/mL in PBS containing 1.5% normal serum and 0.2% Triton X-100) for 12-36 hours at +4°C.

7) On a shaker platform, rinse sections eight times, 10-15 minutes per rinse, in PBS.

8) Detect with standard secondary antibody detection system (PAP, ABC, etc.).

9) Mount sections, dehydrate, and apply coverslips.

Important Note: *During shipment, small volumes of product will occasionally become entrapped in the seal of the product vial. For products with volumes of 200 μL or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container's cap.*

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