

# Monoclonal Antibody for N-terminal GAD65 Detection

## Biomaterial – Antibody

## Biomaterial Description

This monoclonal antibody specifically targets the N-terminal region of glutamate decarboxylase 65 (GAD65), a key enzyme in GABA synthesis. Developed using a synthetic peptide corresponding to amino acids 4–22 of human GAD65, the antibody demonstrates high specificity and affinity for the native conformation of GAD65 in human and rodent tissues. It is suitable for use in immunocytochemistry, immunohistochemistry, and immunoprecipitation, and has been validated across multiple platforms including Western blot and ELISA.

## Applications

- Autoimmune disease research, particularly Type 1 diabetes and Stiff Person Syndrome
- Neurobiology studies involving GABAergic neurons and synaptic regulation
- Diagnostic assay development for GAD65 autoantibody detection
- Protein localization and trafficking studies in neuronal tissues
- Immunoprecipitation of native GAD65 for downstream proteomic analysis

## Advantages

- Epitope specificity: Recognizes a unique N-terminal epitope not targeted by other commercial antibodies
- Cross-species reactivity: Validated in human, rat, and mouse tissues
- High affinity and low background: Enables clear signal in immunostaining and biochemical assays
- Versatile utility: Compatible with multiple assay formats including ELISA, Western blot, and immunoprecipitation
- Supports conformational studies: Binds native GAD65, facilitating structural and functional analyses

## Distributor Information

## Technology ID

INV 42144

## Category

Research Tools/Biological  
Materials/Antibody

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## References

1. Hampe, C. S., Lundgren, P., Daniels, T. L., Hammerle, L. P., Marcovina, S. M., & Lernmark, A.(2001) , <https://www.sciencedirect.com/science/article/pii/S0165572800004239>, <https://www.sciencedirect.com/journal/journal-of-neuroimmunology>, 113, 63-71