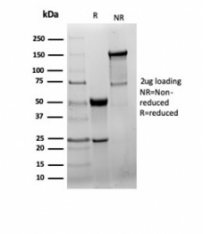
GAD65 Antibody Recombinant Rabbit MAb GAD2/6488R / GAD2 [clone GAD2/6488R] (V4088)

Catalog No.	Formulation	Size
V4088-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4088-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4088SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	GAD2/6488R
Purity	Protein A/G affinity
UniProt	Q05329
Localization	Cytoplasm
Applications	ELISA (Order BSA-free format for coating)
Limitations	This GAD65 antibody is available for research use only.



SDS-PAGE analysis of purified, BSA-free GAD65 antibody recombinant rabbit mAb GAD2/6488R as confirmation of integrity and purity.

Description

Glutamate decarboxylase 2 is a pyridoxal phosphate-dependent enzyme encoded by the GAD2 gene and commonly

referred to as GAD65. The GAD65 Antibody Recombinant Rabbit MAb GAD2/6488R is developed to detect this synaptic enzyme in research applications focused on inhibitory neurotransmission and neuroendocrine tissue analysis. GAD2 is located on chromosome 10p11.23 and encodes the 65 kDa isoform of glutamate decarboxylase responsible for catalyzing the conversion of glutamate to gamma-aminobutyric acid, the principal inhibitory neurotransmitter in the central nervous system.

GAD65 is predominantly localized to the cytoplasm of GABAergic neurons, where it associates with synaptic vesicle membranes and supports activity-dependent GABA synthesis. In contrast to the related isoform GAD67 encoded by GAD1, which contributes to basal GABA production throughout the neuron, GAD2 is more closely linked to regulated neurotransmitter release. Immunohistochemical detection typically demonstrates cytoplasmic staining in neuronal cell bodies and processes within cortex, hippocampus, cerebellum, and other regions enriched for inhibitory interneurons. Most non-neuronal tissues show minimal staining, reflecting the restricted neuronal expression of GAD65.

Beyond the central nervous system, GAD2 is also expressed in pancreatic islet beta cells, where it participates in local GABA signaling and is recognized as a major autoantigen in type 1 diabetes. Tissue-based detection of GAD65 is therefore relevant in both neurologic and endocrine research contexts. Altered GAD2 expression has been studied in epilepsy, neurodevelopmental disorders, and neurodegenerative diseases characterized by disrupted excitatory-inhibitory balance.

As a key enzyme in GABA biosynthesis, GAD2 plays an essential role in maintaining synaptic inhibition and neural network stability. Clone GAD2/6488R is a recombinant rabbit monoclonal antibody developed for specific detection of GAD65 in formalin-fixed, paraffin-embedded specimens and other protein expression studies supporting research into inhibitory neuron identification and neuroendocrine cell characterization.

For highly specific detection of GAD65 in inhibitory synaptic signaling studies, see our GAD65 Antibody / Synaptic GABA Marker Antibody page featuring clone GAD2/2362 with strong HuProt(TM) microarray specificity validation data.

Application Notes

Optimal dilution of the GAD65 antibody should be determined by the researcher.

Immunogen

A recombinant human GAD2/GAD65 protein fragment (within amino acids 6-99) was used as the immunogen for the GAD65 antibody recombinant rabbit mAb GAD2/6488R.

Storage

Aliquot the GAD65 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

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