

Datasheet: MCA5648

Description:	MOUSE ANTI HUMAN GLUTAMATE DECARBOXYLASE 2 (N-TERMINAL)
Specificity:	GLUTAMATE DECARBOXYLASE 2 (N-TERMINAL)
Other names:	GAD65/GAD2
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	N-GAD65
Isotype:	IgG1
Quantity:	0.2 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry			▪	
Immunohistology - Frozen	▪			
Immunohistology - Paraffin	▪			
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting	▪			1/100 - 1/1000
Radioimmunoassays	▪			

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

Target Species

Human

Species Cross Reactivity

Reacts with: Rat, Monkey

N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

Product Form

Purified IgG - liquid

Preparation

Purified IgG prepared by affinity chromatography on Protein G from tissue culture

supernatant

Buffer Solution Phosphate buffered saline

Preservative Stabilisers 0.09% Sodium Azide (NaN₃)

Carrier Free Yes

Approx. Protein Concentrations IgG concentration 1.0mg/ml

Immunogen Keyhole Limpet Haemocyanin (KLH) conjugated synthetic peptide sequence PGSGFWSFGSEDGSGDSEN corresponding to amino acids 4-22 within the N-terminal region of human GAD65.

External Database Links

UniProt:

[Q05329](#)

[Related reagents](#)

Entrez Gene:

[2572](#)

GAD2

[Related reagents](#)

Synonyms GAD65

RRID AB_10922595

Fusion Partners Spleen cells from immunised Balb/c mice were fused with cells of the SP2/0-Ag14 mouse myeloma cell line.

Specificity

Mouse anti Human Glutamate Decarboxylase 2 (N-Terminal) antibody, clone

N-GAD65 recognizes human glutamate decarboxylase 2, also known as 65 kDa glutamic acid decarboxylase, Glutamate decarboxylase 65 kDa isoform or GAD-65. Glutamate decarboxylase 2 is a 585 amino acid ~65 kDa lipid anchored membrane associated protein responsible for catalysis of γ -aminobutyric acid (GABA) production, the major inhibitory neurotransmitter in the central nervous system ([Fenalti et al. 2007](#)) and is expressed in the brain and pancreatic beta cells.

Glutamate decarboxylase 2 is the 65 kDa isoform of glutamate decarboxylase, encoded by the GAD2 gene and predominantly expressed by nerve termini, as opposed to the 67 kDa isoform (GAD67), predominantly found in the cell body, and encoded by the GAD1 gene. Autoantibodies to Glutamate decarboxylase 2 are detected in autoimmune diseases, including Graves disease ([Kallmann et al. 1997](#)), Stiff Man Syndrome ([Raju et al. 2005](#)) and are most prevalent in patients with Type I diabetes mellitus or those at high risk of developing Type I diabetes ([Petersen et al. 1994](#)). The N-Terminal region of GAD65 is essential for targeting the enzyme to GABA-containing secretory vesicles ([Shi et al. 1994](#)).

Mouse anti Human Glutamate Decarboxylase 2 (N-Terminal) antibody, clone N-GAD65

recognizes GAD65 but does not recognize GAD67 ([Hampe et al. 2001](#)).

Histology Positive Control Tissue	Human brain
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References	1. Hampe, C.S. et al. (2001) A novel monoclonal antibody specific for the N-terminal end of GAD65. J Neuroimmunol. 113 (1): 63-71.
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Storage	Store at +4°C or at -20°C if preferred. Storage in frost-free freezers is not recommended. This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
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Guarantee	18 months from date of despatch.
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Health And Safety Information	Material Safety Datasheet documentation #10040 available at: 10040: https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf
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Regulatory	For research purposes only
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Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG IgA IgM (STAR87...)	Alk. Phos. , HRP
Goat Anti Mouse IgG (STAR77...)	HRP
Rabbit Anti Mouse IgG (STAR12...)	RPE
Rabbit Anti Mouse IgG (STAR8...)	DyLight@800
Rabbit Anti Mouse IgG (STAR13...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG (STAR70...)	FITC
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC , HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos. , DyLight@488 , DyLight@680 , DyLight@800 , FITC , HRP

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA928\)](#)

North & South America	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com	Worldwide	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com	Europe	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com
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