

Anti-GAD65/GAD2 Antibody

Catalog Number: PA1403

About GAD2

Glutamate decarboxylase 2, also known as GAD65, is an enzyme that in humans is encoded by the GAD2 gene. This gene encodes one of several forms of glutamic acid decarboxylase, identified as a major autoantigen in insulin-dependent diabetes. The enzyme encoded is responsible for catalyzing the production of gamma-aminobutyric acid from L-glutamic acid. A pathogenic role for this enzyme has been identified in the human pancreas since it has been identified as an autoantibody and an autoreactive T cell target in insulin-dependent diabetes. This gene may also play a role in the stiff man syndrome. Alternative splicing results in multiple transcript variants that encode the same protein.

Overview

Product Name	Anti-GAD65/GAD2 Antibody
Reactive Species	Mouse, Rat
Description	Boster Bio Anti-GAD65/GAD2 Antibody catalog # PA1403. Tested in IHC, WB applications. This antibody reacts with Mouse, Rat.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na ₂ HPO ₄ .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q05329

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human GAD65, identical to the related mouse and rat sequences.
Predicted Reactive Species	Hamster
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.

Purification	Immunogen affinity purified.
Suggested Dilutions	<p>Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.</p> <p>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.</p> <p>Some PubMed article(s) citing the expression level of this target are as follows:</p> <p>Boster Bio's internal QC testing used:</p> <p>Western blot, 0.1-0.5ug/ml, Mouse, Rat</p> <p>Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Rat, By Heat</p>

Anti-GAD65/GAD2 Antibody (PA1403) Images

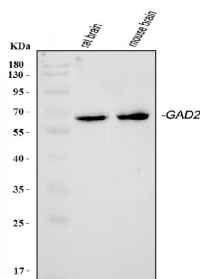


Figure 1. Western blot analysis of GAD65/GAD2 using anti-GAD65/GAD2 antibody (PA1403). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

Lane 1: rat brain tissue lysates,
Lane 2: mouse brain tissue lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-GAD65/GAD2 antigen affinity purified polyclonal antibody (Catalog # PA1403) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for GAD65/GAD2 at approximately 65 kDa. The expected band size for GAD65/GAD2 is at 65 kDa.

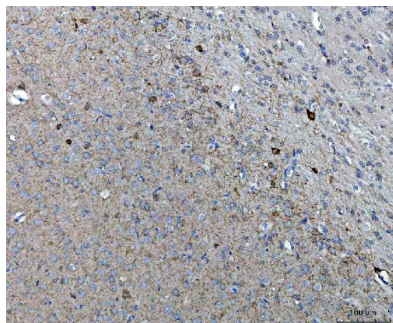


Figure 2. IHC analysis of GAD65/GAD2 using anti-GAD65/GAD2 antibody (PA1403). GAD65/GAD2 was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GAD65/GAD2 Antibody (PA1403) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

2 Publications Citing This Product

1. PubMed ID: 21444355, Shi J, Ma Y, Zheng M, Ruan Z, Liu J, Tian S, Zhang D, He X, Li G. Toxicol Ind Health. 2012 Feb;28(1):10-20. Doi: 10.1177/0748233711401264. Epub 2011 Mar 28. Effect Of Sub-Acute Exposure To Acrylamide On Gabaergic Neurons And Astrocytes In Weaning ...

2. PubMed ID: 26199611, Acrylamide neurotoxicity on the cerebrum of weaning rats

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