

Anti-Glycine decarboxylase/GLDC Antibody Picoband™

Catalog Number: A04777-2

About GLDC

Glycine decarboxylase also known as glycine cleavage system P protein or glycine dehydrogenase is an enzyme that in humans is encoded by the GLDC gene. Degradation of glycine is brought about by the glycine cleavage system, which is composed of four mitochondrial protein components: P protein (a pyridoxal phosphate-dependent glycine decarboxylase), H protein (a lipoic acid-containing protein), T protein (a tetrahydrofolate-requiring enzyme), and L protein (a lipoamide dehydrogenase). The protein encoded by this gene is the P protein, which binds to glycine and enables the methylamine group from glycine to be transferred to the T protein. Defects in this gene are a cause of nonketotic hyperglycinemia (NKH).

Overview

Product Name	Anti-Glycine decarboxylase/GLDC Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Glycine decarboxylase/GLDC Antibody Picoband™ catalog # A04777-2. Tested in ELISA, Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	ELISA, Flow Cytometry, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg NaN3.
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	P23378

Technical Details

Immunogen	E.coli-derived human Glycine decarboxylase/GLDC recombinant protein (Position: K574-S1020).
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

Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.

If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.

Some PubMed article(s) citing the expression level of this target are as follows:

Boster Bio's internal QC testing used:

Western blot, 0.25-0.5ug/ml, Human, Mouse, Rat

Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human, Mouse, Rat

Flow Cytometry, 1-3ug/1x10⁶ cells, Human

Direct ELISA, 0.1-0.5ug/ml, Human

Anti-Glycine decarboxylase/GLDC Antibody Picoband™ (A04777-2) Images

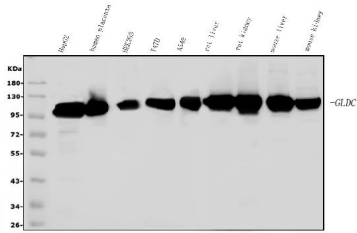


Figure 1. Western blot analysis of Glycine decarboxylase/GLDC using anti-Glycine decarboxylase/GLDC antibody (A04777-2).

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 50ug of sample under reducing conditions.

Lane 1: human HEPG2 whole cell lysates,
Lane 2: human placenta tissue lysates,
Lane 3: human HEK293 whole cell lysates,
Lane 4: human T47D whole cell lysates,
Lane 5: human A549 whole cell lysates,
Lane 6: rat liver tissue lysates,
Lane 7: rat kidney tissue lysates,
Lane 8: mouse liver tissue lysates,
Lane 9: mouse kidney tissue lysates.

After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA 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-Glycine decarboxylase/GLDC antigen affinity purified polyclonal antibody (Catalog # A04777-2) 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 Glycine decarboxylase/GLDC at approximately 113KD. The expected band size for Glycine decarboxylase/GLDC is at 113KD.

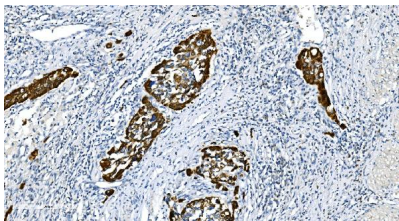
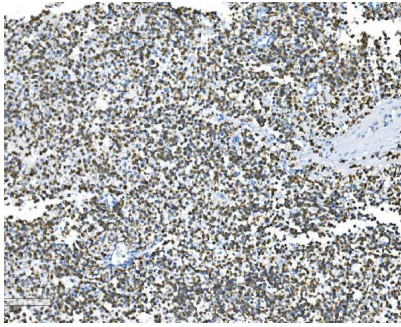


Figure 2. IHC analysis of Glycine decarboxylase/GLDC using anti-Glycine decarboxylase/GLDC antibody (A04777-2).

Glycine decarboxylase/GLDC was detected in paraffin-embedded section of human bladder cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-Glycine decarboxylase/GLDC Antibody (A04777-2) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

Figure 3. IHC analysis of Glycine decarboxylase/GLDC using anti-Glycine decarboxylase/GLDC antibody (A04777-2).

Glycine decarboxylase/GLDC was detected in paraffin-embedded section of human testicular cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then



incubated with 2ug/ml rabbit anti-Glycine decarboxylase/GLDC Antibody (A04777-2) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

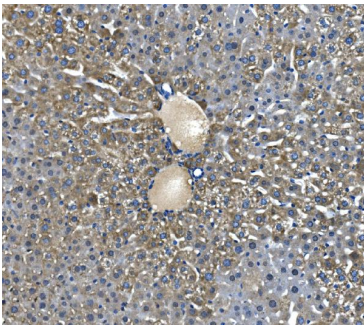


Figure 4. IHC analysis of Glycine decarboxylase/GLDC using anti-Glycine decarboxylase/GLDC antibody (A04777-2). Glycine decarboxylase/GLDC was detected in paraffin-embedded section of mouse liver tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-Glycine decarboxylase/GLDC Antibody (A04777-2) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

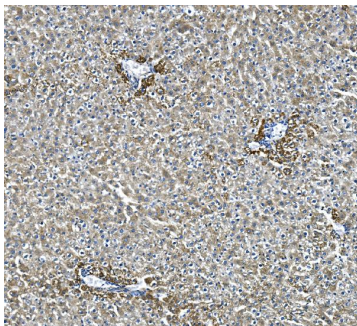


Figure 5. IHC analysis of Glycine decarboxylase/GLDC using anti-Glycine decarboxylase/GLDC antibody (A04777-2). Glycine decarboxylase/GLDC was detected in paraffin-embedded section of rat liver tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-Glycine decarboxylase/GLDC Antibody (A04777-2) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

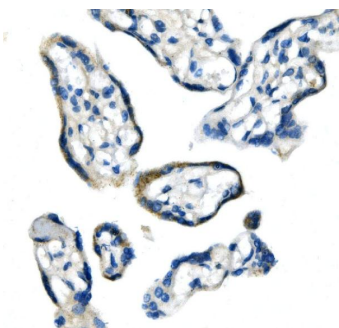
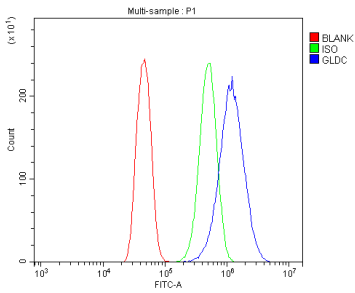


Figure 6. IHC analysis of Glycine decarboxylase/GLDC using anti-Glycine decarboxylase/GLDC antibody (A04777-2). Glycine decarboxylase/GLDC was detected in paraffin-embedded section of human placenta tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-Glycine decarboxylase/GLDC Antibody (A04777-2) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

Figure 7. Flow Cytometry analysis of CACO-2 cells using anti-Glycine decarboxylase/GLDC antibody (A04777-2).



Overlay histogram showing CACO-2 cells stained with A04777-2 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-Glycine decarboxylase/GLDC Antibody (A04777-2, 1ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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