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888-466-3604 | support@bosterbio.com | www.bosterbio.com

Anti-GCLC Antibody Picoband™

Catalog Number: PB9201

About GCLC

GCLC, also named Glutamate--cysteine ligase catalytic subunit, is an enzyme that in humans is encoded by the GCLC gene. Glutamate-cysteine ligase, also known as gamma-glutamylcysteine synthetase is the first rate limiting enzyme of glutathione synthesis. The enzyme consists of two subunits, a heavy catalytic subunit and a light regulatory subunit. The gene encoding the catalytic subunit encodes a protein of 367 amino acids with a calculated molecular weight of 72.773 kDa and maps to chromosome 6p12.1. Deficiency of gamma-glutamylcysteine synthetase in human is associated with enzymopathic hemolytic anemia.

Overview

Product Name	Anti-GCLC Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-GCLC Antibody Picoband™ catalog # PB9201. Tested in Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	Flow Cytometry, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
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	P48506

Technical Details

Immunogen	E.coli-derived human GCLC recombinant protein (Position: E437-N637). Human GCLC shares 94% amino acid (aa) sequence identity with both mouse and rat GCLC.
Predicted Reactive Species	Human
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.

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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, 0.1-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human, By Heat Flow Cytometry(Fixed), 1-3 ug/1x10^6 cells, Human

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Anti-GCLC Antibody Picoband™ (PB9201) Images

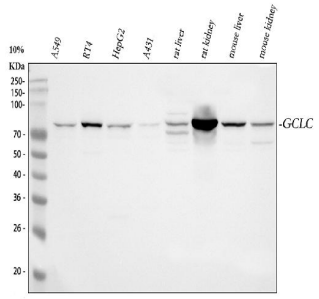

Figure 1. Western blot analysis of GCLC using anti-GCLC antibody (PB9201).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human A549 whole cell lysates,
Lane 2: human RT4 whole cell lysates,
Lane 3: human HepG2 whole cell lysates,
Lane 4: human A431 whole cell lysates,
Lane 5: rat liver tissue lysates,
Lane 6: rat kidney tissue lysates,
Lane 7: mouse liver tissue lysates,
Lane 8: mouse kidney 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-GCLC antigen affinity purified polyclonal antibody (Catalog # PB9201) 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 GCLC at approximately 73 kDa. The expected band size for GCLC is at 73 kDa.

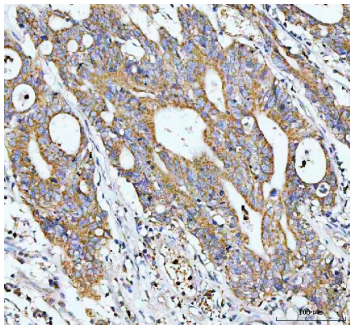

Figure 2. IHC analysis of GCLC using anti-GCLC antibody (PB9201).
GCLC was detected in a paraffin-embedded section of human colorectal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GCLC Antibody (PB9201) 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.

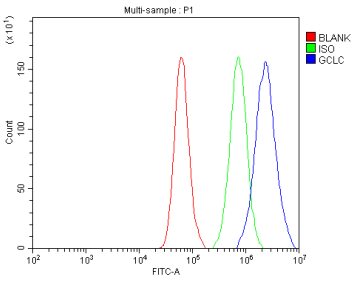

Figure 3. Flow Cytometry analysis of A549 cells using anti-GCLC antibody (PB9201).
Overlay histogram showing A549 cells stained with PB9201 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-GCLC Antibody (PB9201, 1 ug/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody

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(Green line) was rabbit IgG (1 ug/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

4 Publications Citing This Product

1. PubMed ID: 10.1155/2021/6688708, Fucoxanthin Prevents 6-OHDA-Induced Neurotoxicity by Targeting Keap1

2. PubMed ID: -, Zhilei Mao,Shushu Li,Lina Zhang,Mengmeng Yao,Zhu Zhou,Minjian Chen,"The mTOR/GCLc/GSH Pathway Mediates the Dose-Dependent Bidirectional Regulation of ROS Induced by TiO2 NPs in Neurogenic Cells",Oxidative Medicine and Cellular Longevity,vol.2019,Article ID 7621561,14 pages,2019.https://doi.org/10.1155/2019/7621561

3. PubMed ID: 27630691, Electroacupuncture alleviates cerebral ischemia and reperfusion injury via modulation of the ERK1/2 signaling pathway

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