

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

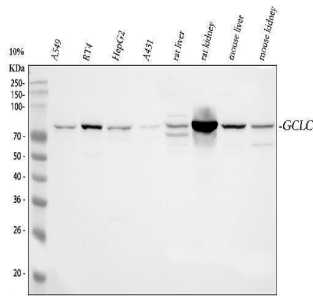
Product Name	Anti-GCLC Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-GCLC Antibody Picoband® catalog # PB9201. Tested in Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, 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	P48506

Technical Details

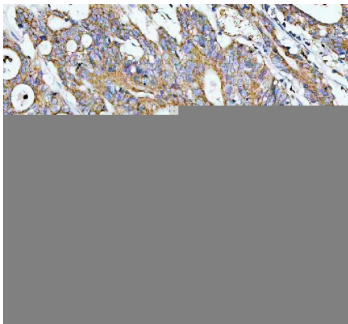
Immunogen	E.coli-derived human GCLC recombinant protein (Position: E437-N637). Human GCLC shares 94% amino acid (aa) sequence identity with both mouse and rat GCLC.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated 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	Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human Flow Cytometry(Fixed), 1-3 ug/1x10 ⁶ cells, Human

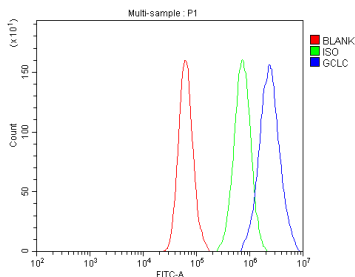
Anti-GCLC Antibody Picoband® (PB9201) Images



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.



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.



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/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x10⁶) 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

Visit bosterbio.com/anti-gclc-picoband-trade-antibody-pb9201-boster.html to see all 4 publications.

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Anti-GCLC Antibody

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