

GCLC Polyclonal Antibody

Catalog NumberPA5-19702

Product data sheet

Details		Species Reactivity	
Size	100 µg	Species reactivity	Human, Mouse, Rat
Host/Isotope	Rabbit / IgG	Published species	Human
Class	Polyclonal	Tested Applications	Dilution *
Type	Antibody	Western Blot (WB)	1 µg/mL
Immunogen	Synthetic peptide conjugated to KLH derived from within residues 50 - 150 of Human GCLC.	Immunocytochemistry (ICC/IF)	5 µg/mL
Conjugate	Unconjugated	Published Applications	
Form	Liquid	Western Blot (WB)	See 2 publications below
Concentration	0.9 mg/mL	Miscellaneous PubMed (Misc)	See 1 publications below
Storage Conditions	Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.	* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.	

Product specific information

This antibody is predicted to react with cow based on sequence homology.

Background/Target Information

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. This locus encodes the catalytic subunit, while the regulatory subunit is derived from a different gene located on chromosome 1p22-p21. Mutations at this locus have been associated with hemolytic anemia due to deficiency of gamma-glutamylcysteine synthetase and susceptibility to myocardial infarction.

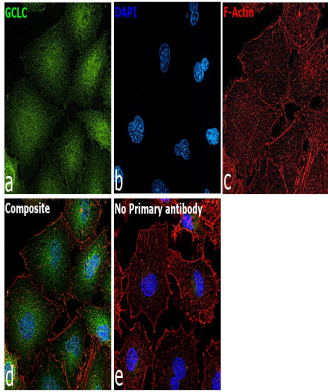
For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Production documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE GRANTED INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT. BUYER'S EXCLUSIVE REMEDY FOR NON-CONFORMING PRODUCTS DURING THE WARRANTY PERIOD IS LIMITED TO REPAIR, REPLACEMENT OF OR REFUND FOR THE NON-CONFORMING PRODUCT(S) AT SELLER'S SOLE OPTION. THERE IS NO OBLIGATION TO REPAIR, REPLACE OR REFUND FOR PRODUCTS AS THE RESULT OF (i) ACCIDENT, DISASTER OR EVENT OF FORCE MAJEURE, (ii) MISUSE, FAULT OR NEGLIGENCE OF OR BY BUYER, (iii) USE OF THE PRODUCTS IN A MANNER FOR WHICH THEY WERE NOT DESIGNED, OR (iv) IMPROPER STORAGE AND HANDLING OF THE PRODUCTS. Unless otherwise expressly stated on the Product or in the documentation accompanying the Product, the Product is intended for research only and is not to be used for any other purpose, including without limitation, unauthorized commercial uses, in vitro diagnostic uses, ex vivo or in vivo therapeutic uses, or any type of consumption by or application to human or animals.

Product Images For GCLC Polyclonal Antibody

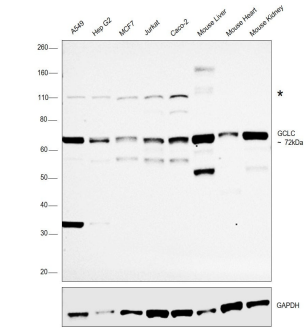


GCLC Antibody (PA5-19702) in ICC/IF

Immunofluorescence analysis GCLC Polyclonal Antibody was performed using 70% confluent log phase A549 cells. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 15 minutes, and blocked with 2% BSA for 1 hour at room temperature. The cells were labeled with GCLC Polyclonal Antibody (Product # PA5-19702) at 5 µg/mL in 0.1% BSA, incubated at 4 degree Celsius overnight and then with Goat anti-Rabbit IgG (H+L) Superclonal™ Recombinant Secondary Antibody, Alexa Fluor® 488 conjugate (Product # A27034) at a dilution of 1:2000 for 45 minutes at room temperature (Panel a: green). Nuclei (Panel b: blue) were stained with SlowFade® Gold Antifade Mountant with DAPI (Product # S36938). F-actin (Panel c: red) was stained with Rhodamine Phalloidin (Product # R415, 1:300). Panel d represents the merged image showing cytosolic localization. Panel e represents control cells with no primary antibody to assess background. The images were captured at 60X magnification.

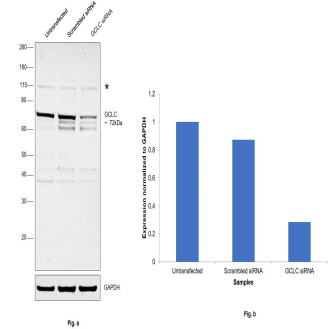
GCLC Antibody (PA5-19702) in WB

Western blot was performed using Anti-GCLC Polyclonal Antibody (Product # PA5-19702) and a 72 kDa band corresponding to GCLC was observed across cell lines tested along with an uncharacterized band at ~110 kDa. Whole cell extracts (30 µg lysate) of A549 (Lane 1), Hep G2 (Lane 2), MCF7 (Lane 3), Jurkat (Lane 4), Caco-2 (Lane 5), Mouse Liver (Lane 6), Mouse Heart (Lane 7) and Mouse Kidney (Lane 8) were electrophoresed using NuPAGE™ 4-12% Bis-Tris Protein Gel (Product # NP0322BOX). Resolved proteins were then transferred onto a nitrocellulose membrane (Product # IB23001) by iBlot® 2 Dry Blotting System (Product # IB21001). The blot was probed with the primary antibody (1ug/ml) and detected by chemiluminescence with Goat anti-Rabbit IgG (H+L) Superclonal™ Recombinant Secondary Antibody, HRP (Product # A27036, 1:4000 dilution) using the iBright FL 1000 (Product # A32752). Chemiluminescent detection was performed using Novex® ECL Chemiluminescent Substrate Reagent Kit (Product # WP20005).



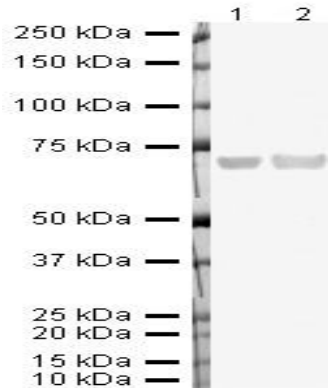
GCLC Antibody (PA5-19702) in WB

Knockdown of GCLC was achieved by transfecting Hep G2 with GCLC specific siRNAs (Silencer® select Product # s5800). Western blot analysis (Fig. a) was performed using whole cell extracts from the GCLC knockdown cells (lane 3), non-specific scrambled siRNA transfected cells (lane 2) and untransfected cells (lane 1). The blot was probed with GCLC Polyclonal Antibody (Product # PA5-19702, 1ug/ml) and Goat anti-Rabbit IgG (H+L), Superclonal™ Recombinant Secondary Antibody, HRP (Product # A27036, 0.25µg/ml, 1:4000 dilution). Densitometric analysis of this western blot is shown in histogram (Fig. b). Decrease in signal upon siRNA mediated knock down confirms that antibody is specific to GCLC. An uncharacterized band (*) at ~110 kDa was observed in the samples.



GCLC Antibody (PA5-19702) in WB

Western blot analysis of Human Skeletal Muscle Tissue Lysate using Product # PA5-19702, GCLC primary antibody at a dilution of 1 µg/mL (lane 1). Staining of Human Kidney Tissue Lysate at a dilution of 1 µg/mL (lane 2). Blot treated with a secondary HRP-conjugated Goat polyclonal anti-Rabbit antibody was used at a dilution of 1:3000.



For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Production documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE GRANTED INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT. BUYER'S EXCLUSIVE REMEDY FOR NON-CONFORMING PRODUCTS DURING THE WARRANTY PERIOD IS LIMITED TO REPAIR, REPLACEMENT OF OR REFUND FOR THE NON-CONFORMING PRODUCT(S) AT SELLER'S SOLE OPTION. THERE IS NO OBLIGATION TO REPAIR, REPLACE OR REFUND FOR PRODUCTS AS THE RESULT OF (i) ACCIDENT, DISASTER OR EVENT OF FORCE MAJEURE, (ii) MISUSE, FAULT OR NEGLIGENCE OF OR BY BUYER, (iii) USE OF THE PRODUCTS IN A MANNER FOR WHICH THEY WERE NOT DESIGNED, OR (iv) IMPROPER STORAGE AND HANDLING OF THE PRODUCTS. Unless otherwise expressly stated on the Product or in the documentation accompanying the Product, the Product is intended for research only and is not to be used for any other purpose, including without limitation, unauthorized commercial uses, in vitro diagnostic uses, ex vivo or in vivo therapeutic uses, or any type of consumption by or application to human or animals.

PubMed References For GCLC Polyclonal Antibody	
2 Western Blot References	
Species / Dilution	Summary
Human / Not Cited	PA5-19702 was used in Western Blotting to suggest histone methyltransferase G9a as a promising target for overcoming cisplatin resistance in head and neck squamous cell carcinoma.
	Molecular cancer therapeutics (2017; 16: 1421) "Histone Methyltransferase G9a Drives Chemotherapy Resistance by Regulating the Glutamate-Cysteine Ligase Catalytic Subunit in Head and Neck Squamous Cell Carcinoma." Author(s):Liu CW,Hua KT,Li KC,Kao HF,Hong RL,Ko JY,Hsiao M,Kuo ML,Tan CT PubMed Article URL: http://dx.doi.org/10.1158/1535-7163.MCT-16-0567-T
Human / 1:1000	PA5-19702 was used in western blot to study the epigenetic regulation of oxidative genes involved in the pathogenesis of chronic obstructive pulmonary disease
	Chest (2016; 149: 474) "Cigarette Smoke-Induced Hypermethylation of the GCLC Gene Is Associated With COPD." Author(s):Cheng L,Liu J,Li B,Liu S,Li X,Tu H PubMed Article URL: http://dx.doi.org/10.1378/chest.14-2309
1 Miscellaneous PubMed References	
Species / Dilution	Summary
Human / Not Cited	PA5-19702 was used in western blot to test if erythroid 2-like 2 regulates expression of ITPR3
	Gastroenterology (2015; 149: 211) "Nuclear Factor, Erythroid 2-Like 2 Regulates Expression of Type 3 Inositol 1,4,5-Trisphosphate Receptor and Calcium Signaling in Cholangiocytes." Author(s):Weerachayaphorn J,Amaya MJ,Spirli C,Chansela P,Mitchell-Richards KA,Ananthanarayanan M,Nathanson MH PubMed Article URL: http://dx.doi.org/10.1053/j.gastro.2015.03.014

For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Production documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE GRANTED INCLUDING WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT. BUYER'S EXCLUSIVE REMEDY FOR NON-CONFORMING PRODUCTS DURING THE WARRANTY PERIOD IS LIMITED TO REPAIR, REPLACEMENT OF OR REFUND FOR THE NON-CONFORMING PRODUCT(S) AT SELLER'S SOLE OPTION. THERE IS NO OBLIGATION TO REPAIR, REPLACE OR REFUND FOR PRODUCTS AS THE RESULT OF (i) ACCIDENT, DISASTER OR EVENT OF FORCE MAJEURE, (ii) MISUSE, FAULT OR NEGLIGENCE OF OR BY BUYER, (iii) USE OF THE PRODUCTS IN A MANNER FOR WHICH THEY WERE NOT DESIGNED, OR (iv) IMPROPER STORAGE AND HANDLING OF THE PRODUCTS. Unless otherwise expressly stated on the Product or in the documentation accompanying the Product, the Product is intended for research only and is not to be used for any other purpose, including without limitation, unauthorized commercial uses, in vitro diagnostic uses, ex vivo or in vivo therapeutic uses, or any type of consumption by or application to human or animals.