BOSTER BIOLOGICAL TECHNOLOGY
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Anti-Glucose 6 Phosphate Dehydrogenase/G6PD Antibody Picoband®

Catalog Number: PB9198

About G6PD

Glucose-6-phosphate dehydrogenase, also known as G6PD or G6PDH, is an enzyme that in humans is encoded by the G6PD gene. It is mapped to Xq28. G6PD plays a key role in the production of ribose 5-phosphate and the generation of NADPH in the hexose monophosphate pathway. Because this pathway is the only NADPH-generation process in mature red cells, which lack the citric adid cycle, a genetic deficiency of G6PD is often associated with adverse physiologic effects. It has been found that aldosterone decreased G6PD expression and activity, resulting in increased oxidant stress and decreased nitric oxide levels, similar to what is observed in G6PD-deficient endothelial cells.

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Overview

Product Name	Anti-Glucose 6 Phosphate Dehydrogenase/G6PD Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Glucose 6 Phosphate Dehydrogenase/G6PD Antibody Picoband® catalog # PB9198. Tested in Flow Cytometry, IP, ICC/IF, 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, IP, IF, IHC, ICC, 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	P11413

Technical Details

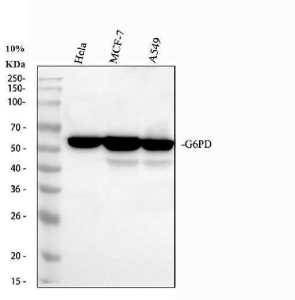
Immunogen	E.coli-derived human G6PD recombinant protein (Position: E315-L515). Human G6PD shares 95% and 96% amino acid (aa) sequences identity with mouse and rat G6PD, respectively.

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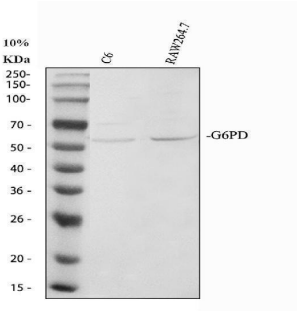
Recommended Detection Systems	Boster recommends ECL Plus Western Blotting Substrate (Catalog # AR1196-200) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
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 Immunocytochemistry/Immunofluorescence, 5ug/ml, Human Immunoprecipitation, 0.5-2 ug/ml, Human Flow Cytometry (Fixed), 1-3ug/1x10^6 cells, Human Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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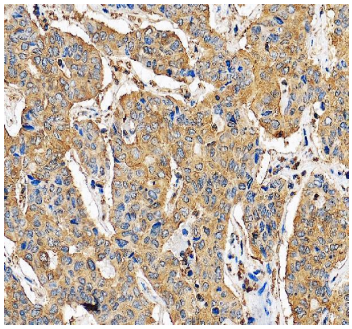
Anti-Glucose 6 Phosphate Dehydrogenase/G6PD Antibody Picoband® (PB9198) Images



Western blot analysis of G6PD using anti-G6PD antibody (PB9198). Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human Hela whole cell lysates, Lane 2: human MCF-7 whole cell lysates, Lane 3: human A549 whole cell 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-G6PD antigen affinity purified polyclonal antibody (PB9198) 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 (Catalog # BA1054) at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for G6PD at approximately 59 kDa. The expected band size for G6PD is at 59 kDa.

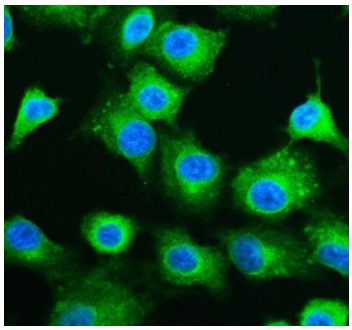


Western blot analysis of G6PD using anti-G6PD antibody (PB9198). Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: rat C6 whole cell lysates, Lane 2: mouse RAW264.7 whole cell 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-G6PD antigen affinity purified polyclonal antibody (PB9198) 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 (Catalog # BA1054) at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for G6PD at approximately 59 kDa. The expected band size for G6PD is at 59 kDa.

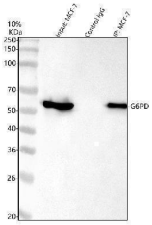


IHC analysis of G6PD using anti-G6PD antibody (PB9198). G6PD was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-G6PD Antibody (PB9198) 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.

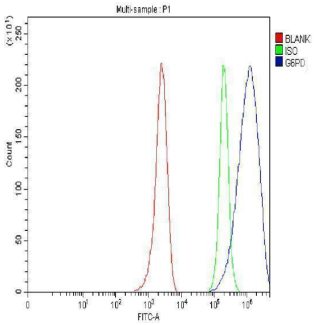
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IF analysis of G6PD using antiG6PD antibody (PB9198). G6PD was detected in an immunocytochemical section of A549 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/mL rabbit anti-G6PD Antibody (PB9198) overnight at 4°C. Fluoro488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Immunoprecipitating G6PD in MCF-7 whole cell lysate. Western blot analysis of G6PD using anti-G6PD antibody (PB9198); Lane 1: MCF-7 whole cell lysates (30ug); Lane 2: Rabbit control IgG instead of anti-G6PD antibody in MCF-7 whole cell lysate; Lane 3: anti-G6PD antibody (2ug) + MCF-7 whole cell lysate (500ug). After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-G6PD antigen affinity purified polyclonal antibody (PB9198) at a dilution of 0.5 ug/mL and probed with a goat anti-rabbit IgG-HRP secondary antibody (Light Chain). The signal is developed using ECL Plus Western Blotting Substrate (Catalog # AR1196-200). A specific band was detected for G6PD at approximately 59 kDa. The expected band size for G6PD is at 59 kDa.



Flow Cytometry analysis of MCF-7 cells using anti-G6PD antibody (PB9198). Overlay histogram showing MCF-7 cells stained with PB9198 (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-G6PD Antibody (PB9198, 1 ug/1x106 cells) for 30 min at 20°C. Fluoro488 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 without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

1 Publications Citing This Product

1. PubMed ID: 23693134, Hu T, Zhang C, Tang Q, Su Y, Li B, Chen L, Zhang Z, Cai T, Zhu Y. Bmc Cancer. 2013 May 22;13:251. Doi: 10.1186/1471-2407-13-251. Variant G6Pd Levels Promote Tumor Cell Proliferation Or Apoptosis Via The Stat3/5 Pathway In The Human Melanoma Xenogr...

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