

Anti-Peroxiredoxin 3/PRDX3 Antibody Picoband™

Catalog Number: PB9349

About PRDX3

PRDX3 (peroxiredoxin 3) also known as AOP-1, MER5, SP-22 or PRX3, is localized exclusively in mitochondria. The deduced 256-amino acid human AOP1 protein shares 86% amino acid sequence similarity with mouse Aop1, and significant similarity with both the human proliferation-associated gene A product and the mouse stress-induced peritoneal macrophage protein Msp23. The PRDX3 gene is mapped on 10q26.11. Expression of PRDX3 is induced by MYC and is reduced in c-myc $-/-$ cells. Chromatin immunoprecipitation analysis spanning the entire PRDX3 genomic sequence revealed that MYC binds preferentially to a 930-bp region surrounding exon 1. Results using mitochondria-specific fluorescent probes demonstrated that PRDX3 is essential for maintaining mitochondrial mass and membrane potential in transformed rat and human cells. These data provided evidence that PRDX3 is a MYC target gene that is required to maintain normal mitochondrial function.

Overview

Product Name	Anti-Peroxiredoxin 3/PRDX3 Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Peroxiredoxin 3/PRDX3 Antibody Picoband™ catalog # PB9349. Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
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	P30048

Technical Details

Immunogen	E.coli-derived human Peroxiredoxin 3 recombinant protein (Position: T110-Q256). Human Peroxiredoxin 3 shares 93% amino acid (aa) sequence identity with both mouse and rat Peroxiredoxin 3.
Predicted Reactive Species	Hamster
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) 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	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 Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, By Heat Immunocytochemistry/Immunofluorescence, 2ug/ml Flow Cytometry, 1-3ug/1x10⁶ cells

Anti-Peroxiredoxin 3/PRDX3 Antibody Picoband™ (PB9349) Images

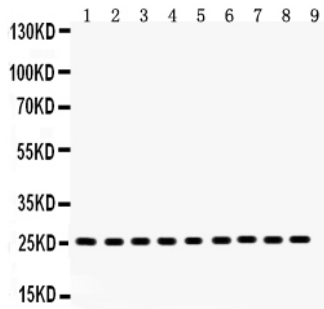


Figure 1. Western blot analysis of Peroxiredoxin 3 using anti-Peroxiredoxin 3 antibody (PB9349).

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: Rat Brain Tissue Lysate,
Lane 2: Mouse Brain Tissue Lysate,
Lane 3: Rat Skeletal Muscle Tissue Lysate,
Lane 4: Mouse Skeletal Muscle Tissue Lysate,
Lane 5: U2OS Whole Cell Lysate,
Lane 6: HELA Whole Cell Lysate,
Lane 7: SMMC Whole Cell Lysate,
Lane 8: RH35 Whole Cell Lysate,
Lane 9: A549 Whole Cell Lysate.

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-Peroxiredoxin 3 antigen affinity purified polyclonal antibody (Catalog # PB9349) 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 1:10000 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 Peroxiredoxin 3 at approximately 25KD. The expected band size for Peroxiredoxin 3 is at 25KD.

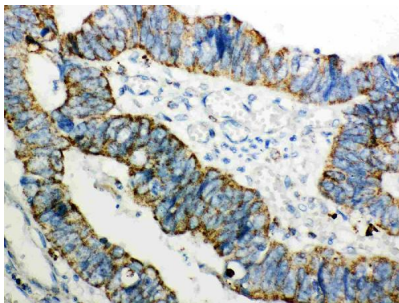
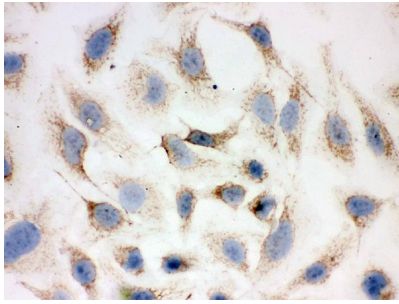


Figure 2. IHC analysis of Peroxiredoxin 3 using anti-Peroxiredoxin 3 antibody (PB9349).

Peroxiredoxin 3 was detected in paraffin-embedded section of Human Intestinal Cancer Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Peroxiredoxin 3 Antibody (PB9349) 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 Peroxiredoxin 3 using anti-Peroxiredoxin 3 antibody (PB9349).

Peroxiredoxin 3 was detected in immunocytochemical section of Hela cell. 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 1ug/ml rabbit anti-Peroxiredoxin 3 Antibody (PB9349) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30



minutes at 37°C. The section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

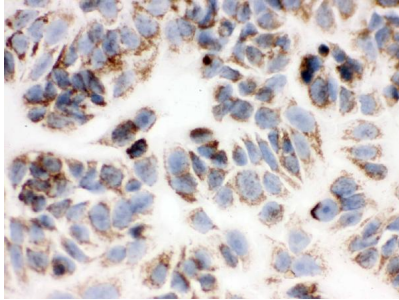


Figure 4. IHC analysis of Peroxiredoxin 3 using anti-Peroxiredoxin 3 antibody (PB9349). Peroxiredoxin 3 was detected in immunocytochemical section of MCF-7 cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 1ug/ml rabbit anti-Peroxiredoxin 3 Antibody (PB9349) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

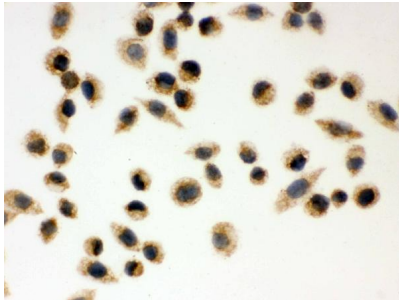


Figure 5. IHC analysis of Peroxiredoxin 3 using anti-Peroxiredoxin 3 antibody (PB9349). Peroxiredoxin 3 was detected in immunocytochemical section of SMMC-7721 cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 1ug/ml rabbit anti-Peroxiredoxin 3 Antibody (PB9349) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

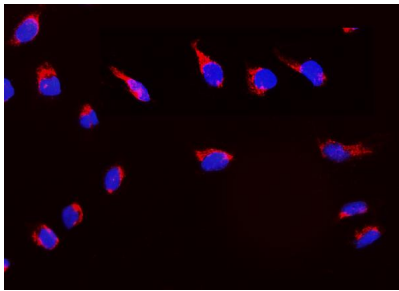
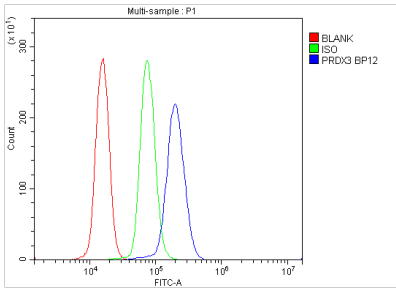


Figure 6. IF analysis of Peroxiredoxin 3 using anti-Peroxiredoxin 3 antibody (PB9349). Peroxiredoxin 3 was detected in immunocytochemical section of U20S cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2ug/mL rabbit anti-Peroxiredoxin 3 Antibody (PB9349) overnight at 4°C. DyLight®594 Conjugated Goat Anti-Rabbit IgG (BA1142) was used as secondary antibody at 1:100 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.

Figure 7. Flow Cytometry analysis of U937 cells using anti-Peroxiredoxin 3 antibody (PB9349). Overlay histogram showing U937 cells stained with PB9349 (Blue line). The cells were blocked with 10% normal goat



serum. And then incubated with rabbit anti-Peroxiredoxin 3 Antibody (PB9349, 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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Anti-Peroxiredoxin 3/PRDX3 Antibody TM