BOSTER BIOLOGICAL TECHNOLOGY
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Anti-Peroxiredoxin 4/PRDX4 Antibody Picoband®

Catalog Number: PB9383

About PRDX4

PRDX4 (peroxiredoxin 4) is also known as AOE37-2. The protein encoded by this gene is an antioxidant enzyme and belongs to the peroxiredoxin family. Functional analysis showed that PRDX4 protects glutamine synthetase from inactivation. Yeast 2-hybrid, immunoprecipitation, and immunoblot analyses indicated that PRDX4 and PRDX1 are capable of homodimerization and heterodimerization with each other but not with the mitochondrial PRDX3. Gel mobility shift and immunoblot analysis found that PRDX4 depletes NFKB binding activity together with a reduction in the amounts of p50, p65, and phosphorylated IKBA, as well as a reduction in the expression of HIV-1 viral proteins. Expression of PRDX4, alone or with PRDX1, increased the resistance of yeast cells to oxidant-induced toxicity. Jin et al. suggested PRDX4 modulates IKBA phosphorylation in the cytoplasm and thus affects a peroxiredoxin-dependent redox step.

Overview

Product Name	Anti-Peroxiredoxin 4/PRDX4 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Peroxiredoxin 4/PRDX4 Antibody Picoband® catalog # PB9383. Tested in Flow Cytometry, IF, IHC, ICC, 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, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9 mg NaCl, 0.2 mg Na2HPO4, and 0.05 mg NaN3. *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
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	Q13162

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Peroxiredoxin 4, different from the related mouse and rat sequences by one amino acid.

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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	Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat Immunocytochemistry , 0.5-1ug/ml, Human, - Immunocytochemistry/Immunofluorescence, 2ug/ml, Human Flow Cytometry (Fixed), 1-3ug/1x10^6 cells, Human

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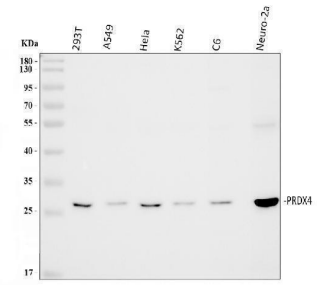
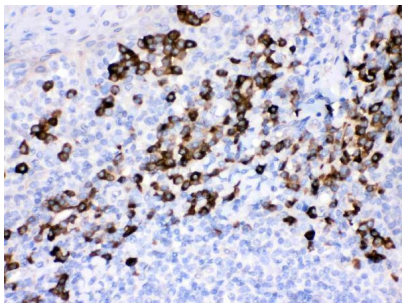
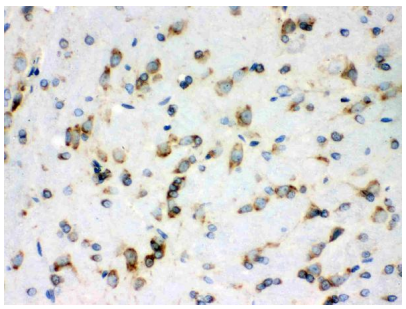
Anti-Peroxiredoxin 4/PRDX4 Antibody Picoband® (PB9383) Images



Western blot analysis of Peroxiredoxin 4 using anti-Peroxiredoxin 4 antibody (PB9383). 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 293T whole cell lysates, Lane 2: human A549 whole cell lysates, Lane 3: human Hela whole cell lysates, Lane 4: human K562 whole cell lysates, Lane 5: rat C6 whole cell lysates, Lane 6: mouse Neuro-2a 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-Peroxiredoxin 4 antigen affinity purified polyclonal antibody (Catalog # PB9383) 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 Peroxiredoxin 4 at approximately 28-30 kDa. The expected band size for Peroxiredoxin 4 is at 31 kDa.



IHC analysis of Peroxiredoxin 4 using anti-Peroxiredoxin 4 antibody (PB9383). Peroxiredoxin 4 was detected in paraffin-embedded section of Human Tonsil tissues. 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 4 Antibody (PB9383) 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 Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of Peroxiredoxin 4 using anti-Peroxiredoxin 4 antibody (PB9383). Peroxiredoxin 4 was detected in paraffin-embedded section of Rat Brain tissues. 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 4 Antibody (PB9383) 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 Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

IHC analysis of Peroxiredoxin 4 using anti-Peroxiredoxin 4 antibody (PB9383). Peroxiredoxin 4 was detected in paraffin-

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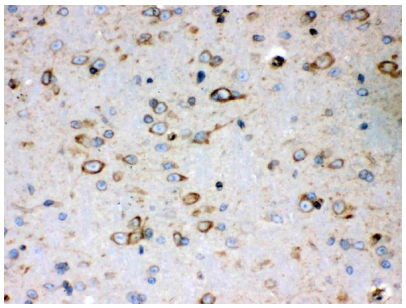
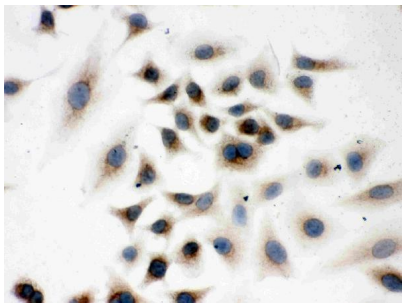
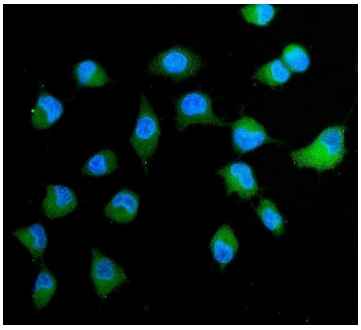


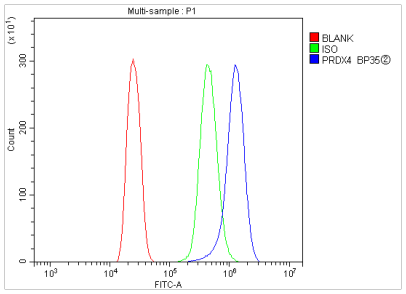
embedded section of mouse Brain tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Peroxiredoxin 4 Antibody (PB9383) overnight 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 Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of Peroxiredoxin 4 using anti-Peroxiredoxin 4 antibody (PB9383). Peroxiredoxin 4 was detected in immunocytochemical section of A549 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 4 Antibody (PB9383) 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 Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IF analysis of Peroxiredoxin 4 using anti-Peroxiredoxin 4 antibody (PB9383). Peroxiredoxin 4 was detected in 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 2ug/mL rabbit anti-Peroxiredoxin 4 Antibody (PB9383) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) 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.



Flow Cytometry analysis of MCF-7 cells using anti-Peroxiredoxin 4 antibody (PB9383).Overlay histogram showing MCF-7 cells stained with PB9383 (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-Peroxiredoxin 4 Antibody (PB9383,1ug/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 without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

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reviews help your fellow scientists make the right decisions. Thank you for your contribution.

Anti-Peroxiredoxin 4/PRDX4 Antibody

For Research Use Only. Not for use in diagnostic procedures.