

Anti-Peroxiredoxin 3 Picoband Antibody

Catalog # ABO12040

Product Information

Application	WB, IHC-P, ICC
Primary Accession	P30048
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Thioredoxin-dependent peroxide reductase, mitochondrial (PRDX3) detection. Tested with WB, IHC-P, ICC in Human; Mouse; Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	10935
Other Names	Thioredoxin-dependent peroxide reductase, mitochondrial, 1.11.1.15, Antioxidant protein 1, AOP-1, HBC189, Peroxiredoxin III, Prx-III, Peroxiredoxin-3, Protein MER5 homolog, PRDX3, AOP1
Calculated MW	27693
Application Details	Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/ml, By Heat Immunocytochemistry, 0.5-1 µg/ml Western blot, 0.1-0.5 µg/ml
Subcellular Localization	Mitochondrion.
Source	Eukaryota
Protein Name	Thioredoxin-dependent peroxide reductase, mitochondrial
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
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.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20 °C for one year. After reconstitution, at 4 °C for one month. It can also

be aliquotted and stored frozen at -20 °C for a longer time.Avoid repeated freezing and thawing.

Belongs to the AhpC/TSA family.

Sequence Similarities

Protein Information

Name	PRDX3
Synonyms	AOP1
Function	Thiol-specific peroxidase that catalyzes the reduction of hydrogen peroxide and organic hydroperoxides to water and alcohols, respectively. Plays a role in cell protection against oxidative stress by detoxifying peroxides (PubMed: 17707404 , PubMed: 29438714 , PubMed: 33889951 , PubMed: 7733872). Acts synergistically with MAP3K13 to regulate the activation of NF-kappa-B in the cytosol (PubMed: 12492477). Required for the maintenance of physical strength (By similarity).
Cellular Location	Mitochondrion. Cytoplasm. Early endosome. Note=Localizes to early endosomes in a RPS6KC1-dependent manner.

Background

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.

Images

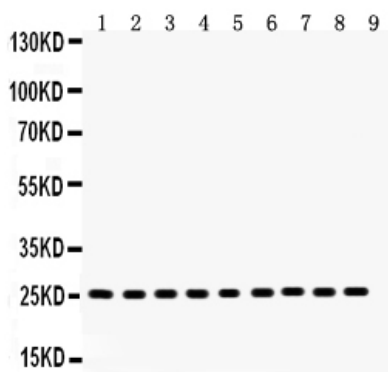


Figure 1. Western blot analysis of Peroxiredoxin 3 using anti-Peroxiredoxin 3 antibody (ABO12040). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 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 # ABO12040) at 0.5 µg/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 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.

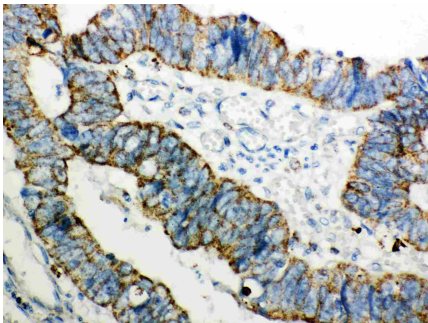


Figure 2. IHC analysis of Peroxiredoxin 3 using anti-Peroxiredoxin 3 antibody (ABO12040). Peroxiredoxin 3 was detected in paraffin-embedded section of Human Intestinal Cancer Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-Peroxiredoxin 3 Antibody (ABO12040) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

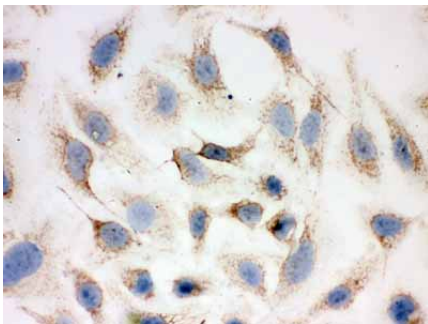


Figure 3. IHC analysis of Peroxiredoxin 3 using anti-Peroxiredoxin 3 antibody (ABO12040). Peroxiredoxin 3 was detected in immunocytochemical section of Hela cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-Peroxiredoxin 3 Antibody (ABO12040) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

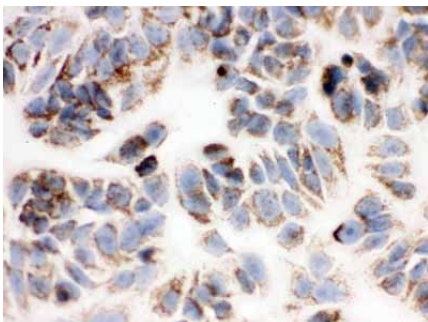


Figure 4. IHC analysis of Peroxiredoxin 3 using anti-Peroxiredoxin 3 antibody (ABO12040). Peroxiredoxin 3 was detected in immunocytochemical section of MCF-7 cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti-Peroxiredoxin 3 Antibody (ABO12040) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.



Figure 5. IHC analysis of Peroxiredoxin 3 using anti-Peroxiredoxin 3 antibody (ABO12040). Peroxiredoxin 3 was detected in immunocytochemical section of SMMC-7721 cell. 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 1 μ g/ml rabbit anti-Peroxiredoxin 3 Antibody (ABO12040) overnight at 4 $^{\circ}$ 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) with DAB as the chromogen.

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