abcam

ab180123

Anti-Peroxiredoxin 5 antibody [EPR14528(B)]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR14528(B)
Purity	Tissue culture supernatant

Reactivity data

IP

Tested

Species	Human
Dilution info	1/60
Notes	-

Predicted

Species	Mouse, Rat

Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/10000 - 1/20000
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/250
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10

Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information PRDX5

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 and as sensor of hydrogen peroxide-mediated signaling events.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Peroxiredoxin 5 (Prdx5) acts as a peroxidase reducing hydrogen peroxide and organic hydroperoxides and protecting cells from oxidative damage. This protein also known as AOEB166 and PRDX6 has a molecular mass of approximately 17 kDa. Prdx5 is widely expressed across various tissues including lung liver heart kidney and brain where it performs protective and regulatory roles. It localizes within multiple cell compartments such as mitochondria peroxisomes and the cytosol.
Biological function summary	Prdx5 plays a role in reducing oxidative stress which helps to maintain cellular homeostasis. It is part of the large family of peroxiredoxins known for their antioxidant activity. Prdx5 interacts with other antioxidants within the cell to mitigate damage from reactive oxygen species (ROS). Its multifunctionality allows it to act both as an antioxidant and a molecular chaperone under certain stress conditions helping cells adapt to challenging environments.
Pathways	Prdx5 functions within the antioxidant defense system and participates in the regulatory networks that control oxidative stress responses. It is an element of the thioredoxin system working alongside thioredoxin and thioredoxin reductase to neutralize ROS. Additionally it contributes to the signaling pathways of apoptosis by controlling ROS levels which can impact cell viability and proliferation.
Associated diseases and disorders	The malfunction or dysregulation of Prdx5 associates with cancer and neurodegenerative diseases. Elevated ROS levels can contribute to tumor progression and have been observed in cancerous tissues where Prdx5 may have altered expression. In neurodegeneration such as Alzheimer's disease Prdx5's role in oxidative stress management potentially affects disease progression. Connections exist between Prdx5 and proteins like amyloid-beta in Alzheimer's illustrating its importance in both protective and pathological contexts.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

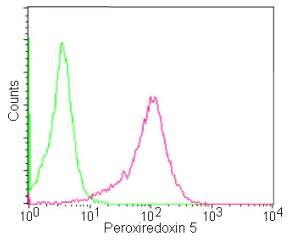
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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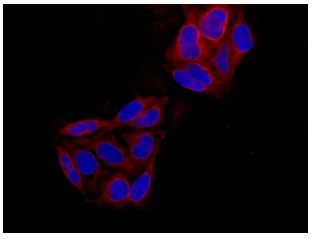
5 product images



Flow Cytometry (Intracellular) - Anti-Peroxiredoxin 5 antibody [EPR14528(B)] (ab180123)

Peroxiredoxin 5 Flow Cytometry (Intracellular) staining using rabbit Anti-Peroxiredoxin 5 antibody

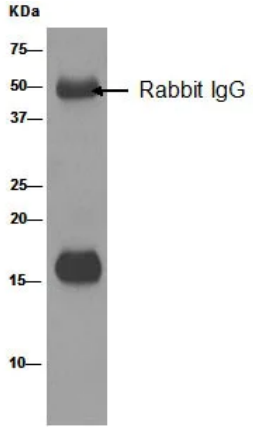
Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed HeLa cells labeling Peroxiredoxin 5with ab180123 at 1/10 dilution (red) compared toa rabbit IgG control (green), followed by Goat anti rabbit IgG (FITC) at 1/75 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-Peroxiredoxin 5 antibody [EPR14528(B)] (ab180123)

Peroxiredoxin 5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Peroxiredoxin 5 antibody

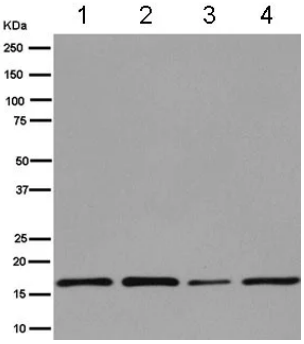
Immunofluorescent analysis of 4% paraformaldehyde-fixed HeLa cells labeling Peroxiredoxin 5 with ab180123 at 1/250 dilution followed by Goat anti rabbit IgG (Dylight 555) at 1/250 dilution. Counterstained with DAPI (blue).



Immunoprecipitation - Anti-Peroxiredoxin 5 antibody [EPR14528(B)] (ab180123)

Western Blot analysis of HeLa cell lysate immunoprecipitated with ab180123 at 1/60 dilution, using Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated secondary antibody at 1/1000 dilution.
All lanes:
Immunoprecipitation - Anti-Peroxiredoxin 5 antibody [EPR14528(B)] (ab180123)

Predicted band size: 22 kDa



Western blot - Anti-Peroxiredoxin 5 antibody [EPR14528(B)] (ab180123)

Peroxiredoxin 5 Western blot staining using rabbit Anti-Peroxiredoxin 5 antibody

All lanes:
Western blot - Anti-Peroxiredoxin 5 antibody [EPR14528(B)] (ab180123) at 1/20000 dilution

Lane 1:
HepG2 cell lysate at 20 µg

Lane 2:
HeLa cell lysate at 20 µg

Lane 3:
Jurkat cell lysate at 20 µg

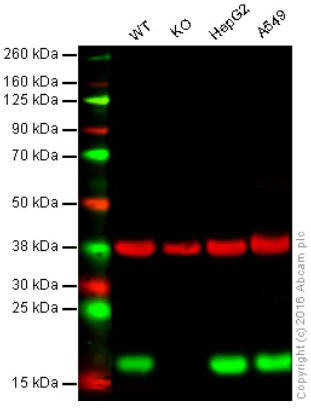
Lane 4:
A549 cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 22 kDa

Observed band size: 17 kDa



Western blot - Anti-Peroxiredoxin 5 antibody [EPR14528(B)] (ab180123)

Peroxiredoxin 5 Western blot staining using rabbit Anti-Peroxiredoxin 5 antibody

Lane 1: Wild type HAP1 whole cell lysate (20 µg)
Lane 2: PRDX5 knockout HAP1 whole cell lysate (20 µg)
Lane 3: HepG2 whole cell lysate (20 µg)
Lane 4: A549 whole cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab180123 observed at 17 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab180123 was shown to specifically react with PRDX5 when PRDX5 knockout samples were used.

Wild-type and PRDX5 knockout samples were subjected to SDS-PAGE. ab180123 and ab8245 (Mouse anti GAPDH loading control) were incubated overnight at 4°C at 10000 dilution and 1/10000 dilution respectively. Blots were developed with 800CW Goat anti Rabbit and 680CW Goat anti Mouse secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.
All lanes:
Western blot - Anti-Peroxiredoxin 5 antibody [EPR14528(B)] (ab180123)

Predicted band size: 22 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.