abcam

ab314176

Anti-Peroxiredoxin 3/PRDX3 antibody [14E2]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.88% Sodium chloride
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human PRDX3. Database link P30048
Clone number	14E2
Purification technique	Affinity purification

Reactivity data

WB

Tested

Species	Human
Dilution info	1/500 - 1/5000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Target data

See full target information PRDX3

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).

Storage

Shipped at conditions	Blue Ice
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

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 3 also known as PRDX3 is an antioxidant enzyme that plays a critical role in the reduction of hydrogen peroxide to water. This protein has a mass of around 25 kDa and belongs to the thioredoxin peroxidase family. It functions within the mitochondria and is expressed in a wide variety of tissues with higher levels in the heart liver and kidney. PRDX3 acts as a protective buffer against oxidative stress by maintaining redox balance in cells.
Biological function summary	The enzyme helps to safeguard cells from oxidative damage by reducing peroxides produced during cellular metabolism. PRDX3 participates in antioxidant defense mechanisms and may form functional complexes with other proteins to enhance its peroxidase activity. Its antioxidant properties contribute to the maintenance of mitochondrial integrity and influence cellular survival and apoptosis processes.
Pathways	PRDX3 integrates into the cellular antioxidant defense system prominently in the thioredoxin pathway. In this pathway PRDX3 synergizes with thioredoxin to neutralize harmful oxidative molecules. PRDX3's activity is interconnected with proteins such as thioredoxin and glutaredoxin which also partake in counteracting oxidative stress bolstering an organism's defense against cellular damage.
Associated diseases and disorders	Alterations in PRDX3 activity associate with conditions like cancer and neurodegenerative disorders. Overexpression of PRDX3 has been observed in certain types of cancer suggesting a potential role in tumor growth through its influence on cell proliferation and survival. In neurodegenerative diseases dysfunctional PRDX3 contributes to neuronal injury. It interacts with proteins like DJ-1 which relate to pathways involved in Parkinson's disease indicating its impact on maintaining neuronal health.

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

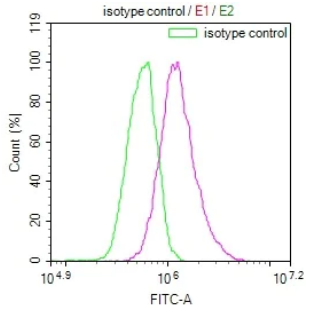
We do not recommend this combination. It is not covered by our product promise.

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.

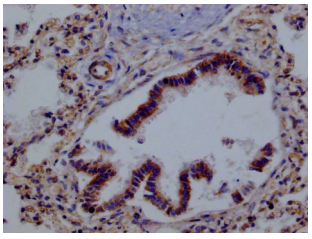
4 product images



Flow Cytometry - Anti-Peroxiredoxin 3/PRDX3 antibody [14E2] (ab314176)

Peroxiredoxin 3/PRDX3 Flow Cytometry staining of HepG2 cells using rabbit Anti-Peroxiredoxin 3/PRDX3 antibody

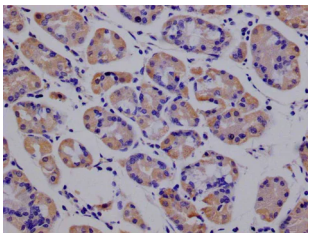
Overlay Peak curve showing HepG2 (Human liver hepatocellular carcinoma cell line) cells stained with ab314176 (pink line) at 1:100. The cells were fixed in 4% formaldehyde and permeated by 0.2% TritonX-100. Then 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (1ug/1x10E6cells) for 45min at 4°C. The secondary antibody used was FITC-conjugated Goat Anti-rabbit IgG (H+L) at 1:200 dilution for 35min at 4°C. Control antibody (green line) was rabbit IgG (1ug/1x10E6cells) used under the same conditions. Acquisition of >10,000 events was performed.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Peroxiredoxin 3/PRDX3 antibody [14E2] (ab314176)

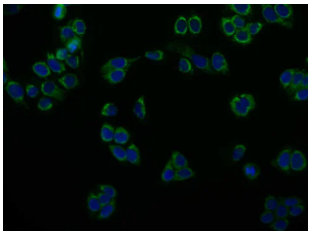
Immunohistochemical analysis of diluted ab314176 at 1:100 and staining in paraffin-embedded human lung tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen

retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit polymer IgG labeled by HRP and visualized using 0.05% DAB.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Peroxiredoxin 3/PRDX3 antibody [14E2] (ab314176)

Immunohistochemical analysis of ab314176 diluted at 1:100 and staining in paraffin-embedded human stomach tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit polymer IgG labeled by HRP and visualized using 0.05% DAB.



Immunocytochemistry/ Immunofluorescence - Anti-Peroxiredoxin 3/PRDX3 antibody [14E2] (ab314176)

Immunofluorescence staining of PC-3 (Human prostate adenocarcinoma cell line) cells with ab314176 at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. The secondary antibody was Alexa Fluor® 503-conjugated Goat Anti-Rabbit IgG(H+L).

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