abcam

ab185544

Anti-Thioredoxin 2 antibody [EPR15225]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 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	EPR15225
Purification technique	Affinity purification Protein A
Concentration	0.736 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human

Dilution info	1/150
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/250 - 1/500
Notes	-

Species	Human
Dilution info	1/250 - 1/500
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information TXN2

Function	Important for the control of mitochondrial reactive oxygen species homeostasis, apoptosis regulation and cell viability (PubMed:12032145, PubMed:12080052, PubMed:26626369) Is involved in various redox reactions including the reduction of protein disulfide bonds, through the reversible oxidation of its active center dithiol to a disulfide (By similarity).

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	Thioredoxin 2 also known as TXN2 is a protein that functions mainly as an oxidoreductase. It facilitates the reduction of other proteins through cysteine thiol-disulfide exchange which is important for maintaining cellular redox balance.

	This protein exists in the mitochondria where it is expressed ubiquitously across tissues. Thioredoxin 2 has a molecular mass of approximately 18 kDa. The presence of TXN2 in all cellular compartments suggests its importance in various cellular processes involving oxidative stress response.
Biological function summary	Thioredoxin 2 participates in regulating mitochondrial redox homeostasis ensuring the protection of mitochondrial DNA against oxidative damage. It acts as a part of the mitochondrial thioredoxin system which includes thioredoxin reductase and NADPH as components. This system is important for the control of mitochondrial reactive oxygen species (ROS) and supports mitochondrial function by facilitating the synthesis of deoxyribonucleotides. The protein therefore plays an important role in cellular antioxidant defenses and in modulating mitochondrial apoptotic pathways.
Pathways	The involvement of Thioredoxin 2 is pivotal in several cellular signaling cascades including the antioxidant defense and apoptosis pathways. Within the redox signaling pathways TXN2 works in conjunction with cytochrome c and caspases to regulate apoptosis and prevent uncontrolled cell death. In pathways related to cellular oxidative stress Thioredoxin 2 interacts closely with glutathione to mediate cellular responses to oxidative damage maintaining balance between the production and removal of ROS.
Associated diseases and disorders	The dysregulation of Thioredoxin 2 correlates with various human conditions such as cancer and neurodegenerative diseases. In cancer alterations in TXN2 levels can affect cell survival and proliferation often by interacting with other antioxidant proteins like peroxiredoxins. For neurodegenerative diseases an imbalance in Thioredoxin 2 activity contributes to neuronal damage through disrupted oxidative stress regulation. This highlights TXN2's potential as a therapeutic target for disorders connected to oxidative stress imbalances.

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

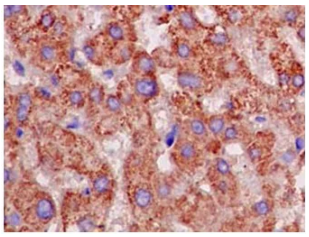
We do not recommend this combination. It is not covered by our product promise.

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.

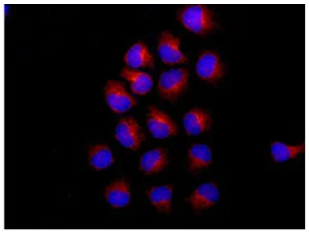
5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Thioredoxin 2 antibody [EPR15225] (ab185544)

Thioredoxin 2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Thioredoxin 2 antibody

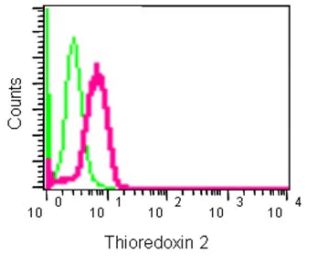
Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling Thioredoxin 2 with ab185544 at 1/500 dilution. Counter stain Hematoxylin.
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-Thioredoxin 2 antibody [EPR15225] (ab185544)

Thioredoxin 2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Thioredoxin 2 antibody

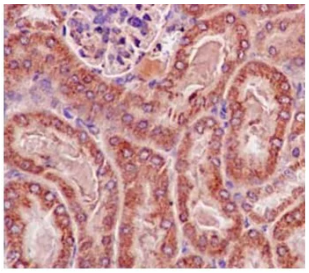
Immunofluorescent analysis of 4% paraformaldehyde fixed HeLa cells labeling Thioredoxin 2 with ab185544 at 1/250 dilution. Secondary antibody Goat anti rabbit IgG (Alexa Fluor®555) at a 1/200 dilution. Counterstained with Dapi blue.



Flow Cytometry (Intracellular) - Anti-Thioredoxin 2 antibody [EPR15225] (ab185544)

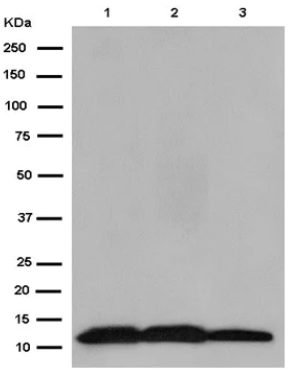
Thioredoxin 2 Flow Cytometry (Intracellular) staining using rabbit Anti-Thioredoxin 2 antibody

Intracellular Flow Cytometry analysis of 2% paraformaldehyde fixed K562 cells labeling Thioredoxin 2 with ab185544 at 1/150 dilution (pink) or a rabbit IgG isotype control (green), followed by secondary Goat anti rabbit IgG (FITC) at 1/150 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Thioredoxin 2 antibody [EPR15225] (ab185544)

Immunohistochemical analysis of paraffin-embedded Mouse kidney tissue labeling Thioredoxin 2 with ab185544 at 1/500 dilution. Counter stain Hematoxylin.
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Western blot - Anti-Thioredoxin 2 antibody [EPR15225] (ab185544)

All lanes:
Western blot - Anti-Thioredoxin 2 antibody [EPR15225] (ab185544) at 1/10000 dilution

Lane 1:
Raji cell lysate at 20 µg

Lane 2:
K562 cell lysate at 20 µg

Lane 3:
HeLa cell lysate at 20 µg

Secondary

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

Predicted band size: 18 kDa

Observed band size: 12 kDa

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