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[KD Validated] GPX4 Rabbit mAb

Catalog No.: A25009 Recombinant 18 Publications

Basic Information

Observed MW
20kDa

Calculated MW
22kDa

Category
Primary antibody

Applications
WB,IF-P,IHC-P,ELISA

Cross-Reactivity
Human, Mouse, Rat

CloneNo number
ARC65274

Background

The protein encoded by this gene belongs to the glutathione peroxidase family, members of which catalyze the reduction of hydrogen peroxide, organic hydroperoxides and lipid hydroperoxides, and thereby protect cells against oxidative damage. Several isozymes of this gene family exist in vertebrates, which vary in cellular location and substrate specificity. This isozyme has a high preference for lipid hydroperoxides and protects cells against membrane lipid peroxidation and cell death. It is also required for normal sperm development; thus, it has been identified as a 'moonlighting' protein because of its ability to serve dual functions as a peroxidase, as well as a structural protein in mature spermatozoa. Mutations in this gene are associated with Sedaghatian type of spondylometaphyseal dysplasia (SMDS). This isozyme is also a selenoprotein, containing the rare amino acid selenocysteine (Sec) at its active site. Sec is encoded by the UGA codon, which normally signals translation termination. The 3' UTRs of selenoprotein mRNAs contain a conserved stem-loop structure, designated the Sec insertion sequence (SECIS) element, that is necessary for the recognition of UGA as a Sec codon, rather than as a stop signal. Transcript variants resulting from alternative splicing or use of alternate promoters have been described to encode isoforms with different subcellular localization.

Recommended Dilutions

WB	1:4000 - 1:24000
IF-P	1:200 - 1:1600
IHC-P	1:1000 - 1:4000
ELISA	Recommended starting concentration is 1 μg/mL. Please optimize the concentration based on your specific assay requirements.

Immunogen Information

Gene ID
2879

Swiss Prot
P36969

Immunogen
Recombinant protein (or fragment).This information is considered to be commercially sensitive.

Synonyms
MCSP; SMDS; GPx-4; PHGPx; snGPx; GSHPx-4; snPHGPx; [KD Validated] GPX4

Contact

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Product Information

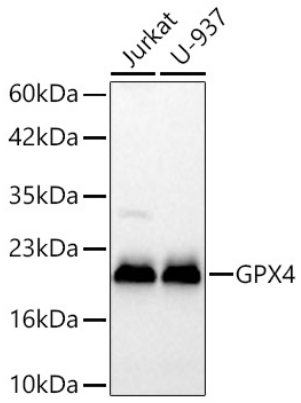
Source
Rabbit

Isotype
IgG

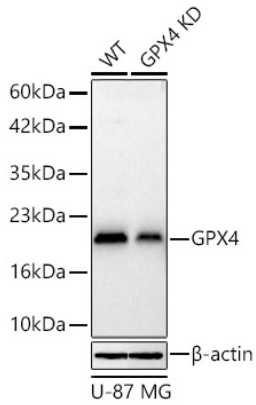
Purification
Affinity purification

Storage
Store at -20℃. Avoid freeze / thaw cycles.
Buffer: PBS with 0.09% Sodium azide,0.05% BSA,50% glycerol,pH7.3.

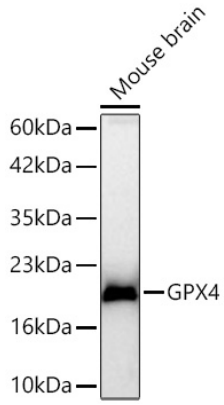
Validation Data



Western blot analysis of various lysates using [KD Validated] GPX4 Rabbit mAb (A25009) at 1:4000 dilution incubated overnight at 4℃.
Secondary antibody: HRP-conjugated Goat anti-Rabbit IgG (H+L) (AS014) at 1:10000 dilution.
Lysates/proteins: 25 µg per lane.
Blocking buffer: 3% nonfat dry milk in TBST.
Detection: ECL Basic Kit (RM00020).
Exposure time: 10s.

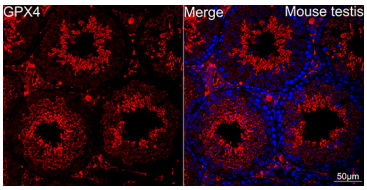


Western blot analysis of lysates from wild type (WT) and GPX4 knocdown (KD) U-87 MG cells using [KD Validated] GPX4 Rabbit mAb (A25009) at 1:4000 dilution incubated overnight at 4℃.
Secondary antibody: HRP-conjugated Goat anti-Rabbit IgG (H+L) (AS014) at 1:10000 dilution.
Lysates/proteins: 25 µg per lane.
Blocking buffer: 3% nonfat dry milk in TBST.
Detection: ECL Basic Kit (RM00020).
Exposure time: 20s.

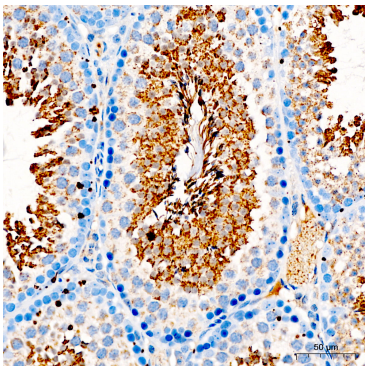


Western blot analysis of lysates from Mouse brain using [KD Validated] GPX4 Rabbit mAb (A25009) at 1:4000 dilution incubated overnight at 4℃.
Secondary antibody: HRP-conjugated Goat anti-Rabbit IgG (H+L) (AS014) at 1:10000 dilution.
Lysates/proteins: 25 µg per lane.
Blocking buffer: 3% nonfat dry milk in TBST.
Detection: ECL Basic Kit (RM00020).
Exposure time: 20s.

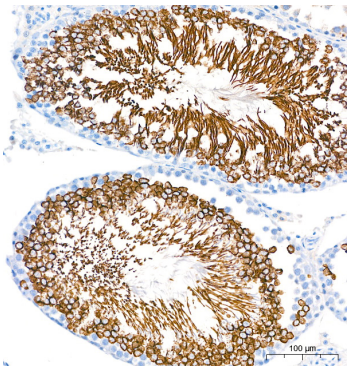
Validation Data



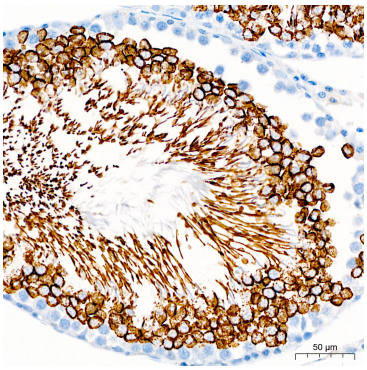
Confocal imaging of paraffin-embedded mouse testis using [KD Validated] GPX4 Rabbit mAb (A25009, dilution 1:200) followed by a further incubation with Cy3 Goat Anti-Rabbit IgG (H+L) (AS007, dilution 1:500) (Red). DAPI was used for nuclear staining (Blue). Objective: 40x.Perform high pressure antigen retrieval with 0.01 M citrate buffer (pH 6.0) prior to IF staining.



Immunohistochemistry analysis of paraffin-embedded Mouse testis tissue using [KD Validated] GPX4 Rabbit mAb (A25009) at a dilution of 1:2000 (40x lens). High pressure antigen retrieval performed with 0.01M Citrate Buffer (pH 6.0) prior to IHC staining.



Immunohistochemistry analysis of paraffin-embedded Rat testis tissue using [KD Validated] GPX4 Rabbit mAb (A25009) at a dilution of 1:2000 (40x lens). High pressure antigen retrieval performed with 0.01M Citrate Buffer (pH 6.0) prior to IHC staining.



Immunohistochemistry analysis of paraffin-embedded Rat testis tissue using [KD Validated] GPX4 Rabbit mAb (A25009) at a dilution of 1:2000 (40x lens). High pressure antigen retrieval performed with 0.01M Citrate Buffer (pH 6.0) prior to IHC staining.