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GPX1 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9315b

Product Information

Application	WB, IHC-P, IF, FC, E
Primary Accession	P07203
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB22987
Calculated MW	22088
Antigen Region	164-193

Additional Information

Gene ID	2876
Other Names	Glutathione peroxidase 1, GPx-1, GSHPx-1, Cellular glutathione peroxidase, GPX1
Target/Specificity	This GPX1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 164-193 amino acids from the C-terminal region of human GPX1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 FC~~1:25 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	GPX1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GPX1 (HGNC:4553)
Function	Catalyzes the reduction of hydroperoxides in a glutathione- dependent manner thus regulating cellular redox homeostasis (PubMed:11115402,

PubMed:36608588). Can reduce small soluble hydroperoxides such as H2O2, cumene hydroperoxide and tert-butyl hydroperoxide, as well as several fatty acid-derived hydroperoxides (PubMed:11115402, PubMed:36608588). In platelets catalyzes the reduction of 12-hydroperoxyeicosatetraenoic acid, the primary product of the arachidonate 12-lipoxygenase pathway (PubMed:11115402).

Cellular Location Cytoplasm {ECO:0000250|UniProtKB:P11352}. Mitochondrion {ECO:0000250|UniProtKB:P11352}

Tissue Location Expressed in platelets (at protein level).

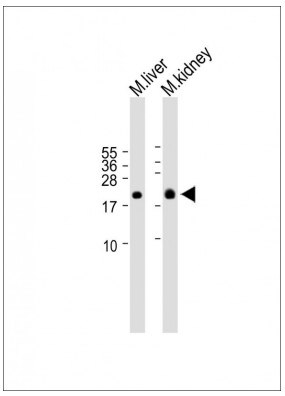
Background

GPX1 encodes a member of the glutathione peroxidase family. Glutathione peroxidase functions in the detoxification of hydrogen peroxide, and is one of the most important antioxidant enzymes in humans. This protein is one of only a few proteins known in higher vertebrates to contain selenocysteine, which occurs at the active site of glutathione peroxidase and is coded by UGA, that normally functions as a translation termination codon. In addition, this protein is characterized in a polyalanine sequence polymorphism in the N-terminal region, which includes three alleles with five, six or seven alanine (ALA) repeats in this sequence.

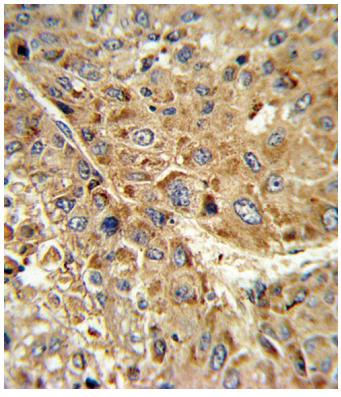
References

Moyer,A.M., et.al., Cancer Epidemiol. Biomarkers Prev. 19 (3), 811-821 (2010)
Akimoto,A.K., et.al., Free Radic. Res. 44 (3), 322-331 (2010)
Cao,C., et.al., J. Biol. Chem. 278 (41), 39609-39614 (2003)

Images

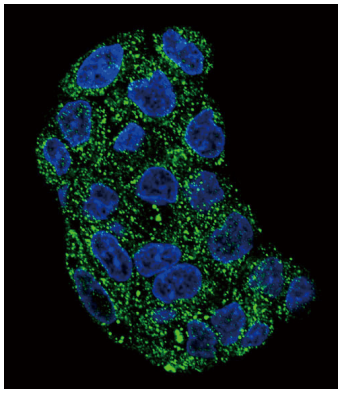


All lanes : Anti-GPX1 Antibody (C-term) at 1:1000 dilution Lane 1: mouse live lysate Lane 2: mouse kidney lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size : 22kDa Blocking/Dilution buffer: 5% NFDM/TBST.

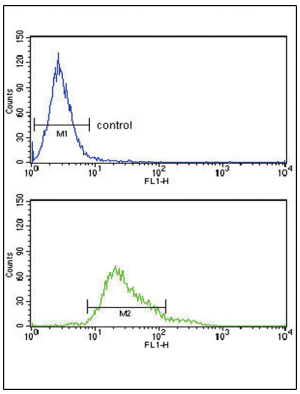


Formalin-fixed and paraffin-embedded human hepatocarcinoma reacted with GPX1 Antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Confocal immunofluorescent analysis of GPX1 Antibody (C-term)(Cat#AP9315b) with HepG2 cell followed by Alexa



Fluor 488-conjugated goat anti-rabbit lgG (green). DAPI was used to stain the cell nuclear (blue).



GPX1 Antibody (C-term) (Cat. #AP9315b) flow cytometry analysis of Hela cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- MARVELD1 interacting with catalase regulates reactive oxygen species metabolism and mediates the sensitivity to chemotherapeutic drugs in epithelial tumors of the reproductive system.
- The Organization of Mitochondrial Supercomplexes is Modulated by Oxidative Stress In Vivo in Mouse Models of Mitochondrial Encephalopathy.

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