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Anti-GPX4 Rabbit Monoclonal Antibody

Catalog # ABO14418

Product Information

Application	WB, IHC, IF, ICC
Primary Accession	P36969
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-GPX4 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF applications. This antibody reacts with Human, Mouse, Rat.

Additional Information

Gene ID	2879
Other Names	Phospholipid hydroperoxide glutathione peroxidase GPX4, PHGPx, 1.11.1.12, Glutathione peroxidase 4, GPx-4, GSHPx-4, 1.11.1.9, GPX4 {ECO:0000303|PubMed:9705830, ECO:0000312|HGNC:HGNC:4556}
Calculated MW	22175
Application Details	WB 1:500-1:2000 IHC 1:50-1:200 ICC/IF 1:50-1:200
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: ACCO-7
Immunogen	A synthesized peptide derived from human GPX4
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

Name	GPX4 {ECO:0000303|PubMed:9705830, ECO:0000312|HGNC:HGNC:4556}
Function	Essential antioxidant peroxidase that directly reduces phospholipid hydroperoxide even if they are incorporated in membranes and lipoproteins

(PubMed:40281343). Can also reduce cholesterol hydroperoxide and thymine hydroperoxide (By similarity). Plays a key role in protecting cells from oxidative damage by preventing membrane lipid peroxidation (PubMed:40281343). Required to prevent cells from ferroptosis, a non-apoptotic cell death resulting from an iron- dependent accumulation of lipid reactive oxygen species (PubMed:24439385, PubMed:40281343). The presence of selenocysteine (Sec) versus Cys at the active site is essential for life: it provides resistance to overoxidation and prevents cells against ferroptosis (By similarity). The presence of Sec at the active site is also essential for the survival of a specific type of parvalbumin-positive interneurons, thereby preventing against fatal epileptic seizures (By similarity). May be required to protect cells from the toxicity of ingested lipid hydroperoxides (By similarity). Required for normal sperm development and male fertility (By similarity). Essential for maturation and survival of photoreceptor cells (By similarity). Plays a role in a primary T-cell response to viral and parasitic infection by protecting T-cells from ferroptosis and by supporting T-cell expansion (By similarity). Plays a role of glutathione peroxidase in platelets in the arachidonic acid metabolism (PubMed:11115402). Reduces hydroperoxy ester lipids formed by a 15-lipoxygenase that may play a role as down- regulator of the cellular 15-lipoxygenase pathway (By similarity). Can reduce fatty acid-derived hydroperoxides (PubMed:11115402, PubMed:36608588). Can also reduce small soluble hydroperoxides such as H2O2, cumene hydroperoxide and tert-butyl hydroperoxide (PubMed:17630701, PubMed:36608588).

Cellular Location

[Isoform Mitochondrial]: Mitochondrion {ECO:0000250|UniProtKB:O70325}

Tissue Location

Present primarily in testis. Expressed in platelets (at protein level) (PubMed:11115402).

Images

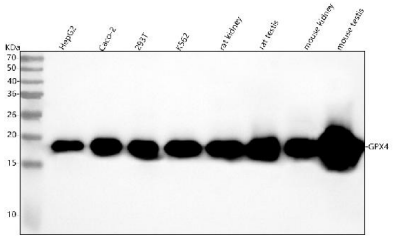
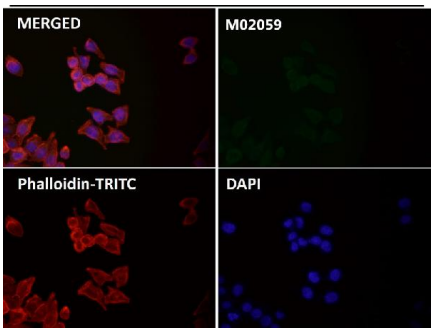


Figure 1. Western blot analysis of GPX4 using anti-GPX4 antibody (M02059).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human HepG2 whole cell lysates,
Lane 2: human CACO-2 whole cell lysates,
Lane 3: human 293T whole cell lysates,
Lane 4: human K562 whole cell lysates,
Lane 5: rat kidney tissue lysates,
Lane 6: rat testis tissue lysates,
Lane 7: mouse kidney tissue lysates,
Lane 8: mouse testis tissue lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-GPX4 antigen affinity purified monoclonal antibody (Catalog # M02059) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:1000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for GPX4 at

approximately 19 kDa. The expected band size for GPX4 is at 22 kDa.



Immunofluorescent analysis using the Antibody at 1:500 dilution.

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