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Anti-GPX4 Rabbit Monoclonal Antibody

Catalog # ABO14418

Specification

Anti-GPX4 Rabbit Monoclonal Antibody - 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.

Anti-GPX4 Rabbit Monoclonal Antibody - 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
19 kDa KDa

Application Details
WB 1:500-1:2000
IHC 1:50-1:200
ICC/IF 1:50-1:200

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.

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.**

Anti-GPX4 Rabbit Monoclonal Antibody - 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).

Anti-GPX4 Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-GPX4 Rabbit Monoclonal Antibody - Images

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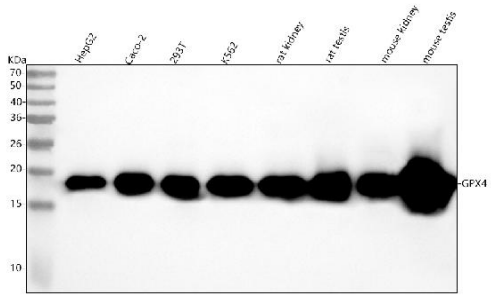
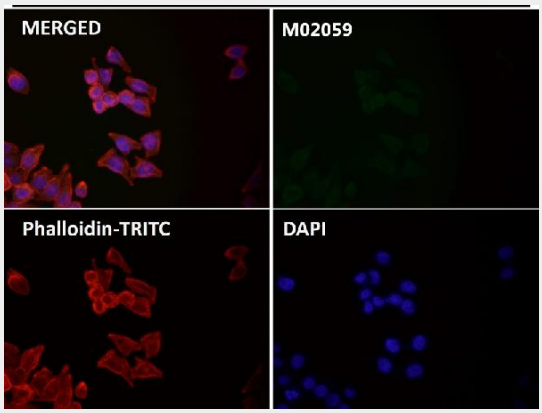


Figure 1. Western blot analysis of GPX4 using anti-GPX4 antibody (M02059).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human HepG2 whole 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.