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GPX4 / MCSP Antibody (clone 1H11)

Mouse Monoclonal Antibody
Catalog # ALS15179

Specification

GPX4 / MCSP Antibody (clone 1H11) - Product Information

Application	**IP**
Primary Accession	P36969
Reactivity	**Human, Mouse, Rat**
Host	**Mouse**
Clonality	**Monoclonal**
Calculated MW	**22kDa KDa**

GPX4 / MCSP Antibody (clone 1H11) - Additional Information

Gene ID 2879

Other Names
Phospholipid hydroperoxide glutathione peroxidase, mitochondrial, PHGPx, 1.11.1.12, Glutathione peroxidase 4, GPx-4, GSHPx-4, GPX4

Reconstitution & Storage
Long term: -20°C; Short term: -20°C

Precautions
GPX4 / MCSP Antibody (clone 1H11) is for research use only and not for use in diagnostic or therapeutic procedures.

GPX4 / MCSP Antibody (clone 1H11) - 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 (By similarity). 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 (By similarity). Required to prevent cells from ferroptosis, a non-apoptotic cell death resulting from an iron- dependent accumulation of lipid reactive oxygen species (PubMed:24439385). 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).

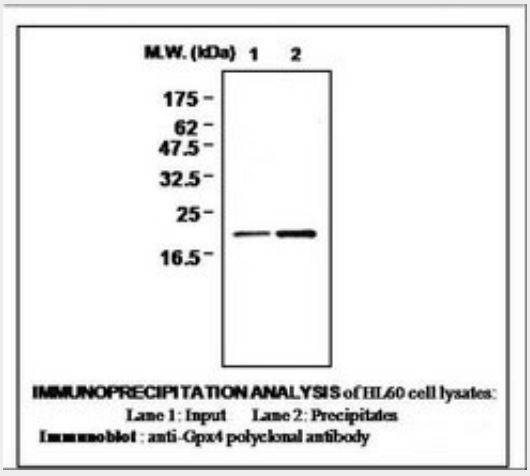
Volume
50 µl

GPX4 / MCSP Antibody (clone 1H11) - 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

GPX4 / MCSP Antibody (clone 1H11) - Images



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GPX4 / MCSP Antibody (clone 1H11) - Background

Protects cells against membrane lipid peroxidation and cell death. Required for normal sperm

development and male fertility. Could play a major role in protecting mammals from the toxicity of ingested lipid hydroperoxides. Essential for embryonic development. Protects from radiation and oxidative damage (By similarity).

GPX4 / MCSP Antibody (clone 1H11) - References

Esworthy R.S.,et al.Gene 144:317-318(1994).
Kelner M.J.,et al.Biochem. Biophys. Res. Commun. 249:53-55(1998).
Grimwood J.,et al.Nature 428:529-535(2004).
Burkard T.R.,et al.BMC Syst. Biol. 5:17-17(2011).
Scheerer P.,et al.Biochemistry 46:9041-9049(2007).