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GPX4 Antibody (Center) Blocking peptide

Synthetic peptide
Catalog # BP10137c

Specification

GPX4 Antibody (Center) Blocking peptide - Product Information

Primary Accession	P36969
Other Accession	NP_001034937.1, NP_001034936.1, NP_002076.2

GPX4 Antibody (Center) Blocking peptide - Additional Information

Gene ID 2879

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

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

GPX4 Antibody (Center) Blocking peptide - 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:36608588, PubMed:17630701).

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

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

GPX4 Antibody (Center) Blocking peptide - Protocols

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

- Blocking Peptides

GPX4 Antibody (Center) Blocking peptide - Images

GPX4 Antibody (Center) Blocking peptide - Background

Glutathione peroxidase catalyzes the reduction of hydrogenperoxide, organic hydroperoxide, and lipid peroxides by reducedglutathione and functions in the protection of cells againstoxidative damage. Human plasma glutathione peroxidase has beenshown to be a selenium-containing enzyme and the UGA codon istranslated into a selenocysteine. Through alternative splicing andtranscription initiation, rat produces proteins that localize tothe nucleus, mitochondrion, and cytoplasm. In humans, experimentalevidence for alternative splicing exists; alternative transcriptioninitiation and the cleavage sites of the mitochondrial and nucleartransit peptides need to be experimentally verified. [provided byRefSeq].

GPX4 Antibody (Center) Blocking peptide - References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)Wang, Y., et al. J. Hum. Genet. 55(8):490-494(2010)Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :Abe, M., et al. BJU Int. (2010) In press :Johnatty, S.E., et al. PLoS Genet. 6 (7), E1001016 (2010) :