

**Goat Anti-GPX4 (Isoform a and c) Antibody**  
**Peptide-affinity purified goat antibody**  
**Catalog # AF1501a****Specification**

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**Goat Anti-GPX4 (Isoform a and c) Antibody - Product Information**

Application	WB, IHC, E
Primary Accession	<a href="#">P36969</a>
Other Accession	<a href="#">NP_001034937</a> , <a href="#">2879</a>
Reactivity	Human
Predicted	Mouse, Rat, Pig
Host	Goat
Clonality	Polyclonal
Concentration	0.5mg/ml
Isotype	IgG
Calculated MW	22175

**Goat Anti-GPX4 (Isoform a and c) Antibody - 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

**Dilution**WB~~1:1000  
IHC~~1:100~500  
E~~N/A**Format**

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Goat Anti-GPX4 (Isoform a and c) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Goat Anti-GPX4 (Isoform a and c) 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:<a href="http://www.uniprot.org/citations/40281343" target="\_blank">40281343</a>). 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:<a href="http://www.uniprot.org/citations/40281343" target="\_blank">40281343</a>). Required to prevent cells from ferroptosis, a non-apoptotic cell death resulting from an iron- dependent accumulation of lipid reactive oxygen species (PubMed:<a href="http://www.uniprot.org/citations/24439385" target="\_blank">24439385</a>, PubMed:<a href="http://www.uniprot.org/citations/40281343" target="\_blank">40281343</a>). 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:<a href="http://www.uniprot.org/citations/11115402" target="\_blank">11115402</a>). 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:<a href="http://www.uniprot.org/citations/11115402" target="\_blank">11115402</a>, PubMed:<a href="http://www.uniprot.org/citations/36608588" target="\_blank">36608588</a>). Can also reduce small soluble hydroperoxides such as H<sub>2</sub>O<sub>2</sub>, cumene hydroperoxide and tert-butyl hydroperoxide (PubMed:<a href="http://www.uniprot.org/citations/17630701" target="\_blank">17630701</a>, PubMed:<a href="http://www.uniprot.org/citations/36608588" target="\_blank">36608588</a>).

#### **Cellular Location**

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

#### **Tissue Location**

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

### **Goat Anti-GPX4 (Isoform a and c) Antibody - Protocols**

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

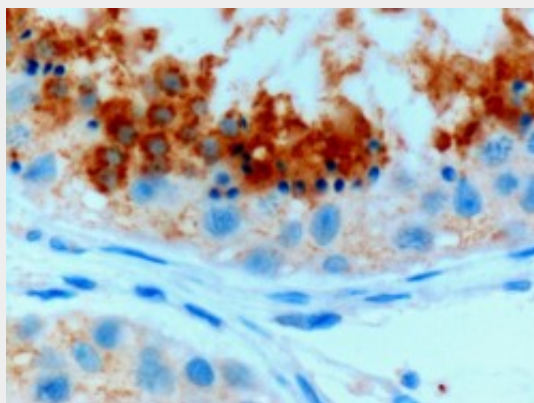
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### **Goat Anti-GPX4 (Isoform a and c) Antibody - Images**





AF1501a (0.1 µg/ml) staining of Human Testis lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.



AF1501a (0.3 µg/ml) staining of paraffin embedded Human Testis. Microwaved antigen retrieval with citrate buffer pH 6, HRP-staining.

### **Goat Anti-GPX4 (Isoform a and c) Antibody - Background**

Glutathione peroxidase catalyzes the reduction of hydrogen peroxide, organic hydroperoxide, and lipid peroxides by reduced glutathione and functions in the protection of cells against oxidative damage. Human plasma glutathione peroxidase has been shown to be a selenium-containing enzyme and the UGA codon is translated into a selenocysteine. Through alternative splicing and transcription initiation, rat produces proteins that localize to the nucleus, mitochondrion, and cytoplasm. In humans, experimental evidence for alternative splicing exists; alternative transcription initiation and the cleavage sites of the mitochondrial and nuclear transit peptides need to be experimentally verified.

### **Goat Anti-GPX4 (Isoform a and c) Antibody - References**

Evaluation of candidate stromal epithelial cross-talk genes identifies association between risk of serous ovarian cancer and TERT, a cancer susceptibility hot-spot. Johnatty SE, et al. PLoS Genet, 2010 Jul 8. PMID 20628624. Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086. Common polymorphisms in ITGA2, PON1 and THBS2 are associated with coronary atherosclerosis in a candidate gene association study of the Chinese Han population. Wang Y, et al. J Hum Genet, 2010 Aug. PMID 20485444. Single-nucleotide polymorphisms within the antioxidant defence system and associations with aggressive prostate cancer. Abe M, et al. BJU Int, 2010 May 5.

PMID 20477822. Personalized smoking cessation: interactions between nicotine dose, dependence and quit-success genotype score. Rose JE, et al. Mol Med, 2010 Jul-Aug. PMID 20379614.

**Goat Anti-GPX4 (Isoform a and c) Antibody - Citations**

- [Key proteins of proteome underlying sperm malformation of rats exposed to low fenvalerate doses are highly related to P53](#)
- [Mapping of the N-linked glycoproteome of human spermatozoa.](#)