

Product Name: KD-Validated Glutathione Peroxidase 4 Recombinant Rabbit Monoclonal Antibody

Catalog #: KVA01398

For research use only.

Summary

Description	KO&KD-Validated antibody
Host	Rabbit
Application	WB,FCM,ICC,IHC-P
Reactivity	Human,Mouse,Rat
Conjugation	Unconjugated
Modification	Unmodified
Isotype	Rabbit IgG
Clonality	Rabbit mAb
Form	Liquid
Storage	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
Shipping	Ice bags
Buffer	Supplied in PBS (pH 7.4) containing 50% glycerol, and 0.02% sodium azide.
Purification	Affinity purification

Application

Dilution Ratio	WB 1:1,000-1:5,000; FC 1:200-1:2,000; ICC 1:100-1:1,000; IHC-P 1:100-1:200
Molecular Weight	Calculated MW: 22.2kDa

Antigen Information

Gene Name	GPX4 GPX4; Glutathione Peroxidase 4; PHGPx; MCSP; Phospholipid Hydroperoxide Glutathione Peroxidase GPX4; Phospholipid Hydroperoxidase; Selenoprotein GPX4; EC 1.11.1.12; GSHPx-
Alternative Names	4; GPx-4; Phospholipid Hydroperoxide Glutathione Peroxidase, Mitochondrial; Glutathione Peroxidase 4 (Phospholipid Hydroperoxidase); Epididymis Secretory Sperm Binding Protein; Sperm Nucleus Glutathione Peroxidase; EC 1.11.1.9; EC 1.11.1; SnPHGPx; SnGPx; SMDS
Gene ID	2879.0
SwissProt ID	P36969
Immunogen	A synthesized peptide derived from human GPX4

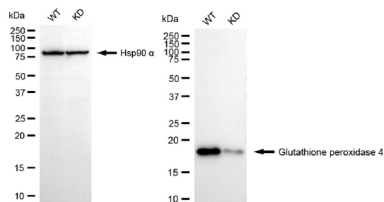
Background

The protein encoded by this gene belongs to the glutathione peroxidase family, members of which catalyze the reduction of hydrogen peroxide, organic hydroperoxides and lipid hydroperoxides, and thereby protect cells against oxidative damage. Several isozymes of this gene family exist in vertebrates, which vary in cellular location and substrate specificity. This isozyme has a high preference for lipid hydroperoxides and protects cells against membrane lipid peroxidation and cell death. It is also required for normal sperm development; thus, it has been identified as a 'moonlighting' protein because of its ability to serve dual functions as a peroxidase, as well as a structural protein in mature spermatozoa. Mutations in this gene are associated with Sedaghatian type of spondylometaphyseal dysplasia (SMDS). This isozyme is also a selenoprotein, containing the rare amino acid selenocysteine (Sec) at its active site. Sec is encoded by the UGA codon, which normally signals translation termination. The 3' UTRs of selenoprotein mRNAs contain a conserved stem-loop structure, designated the Sec insertion sequence (SECIS) element, that is necessary for the recognition of UGA as a Sec codon, rather than as a stop signal. Transcript variants resulting from alternative splicing or use of alternate promoters have been described to encode isoforms with different subcellular localization. [provided by RefSeq, Dec 2018]

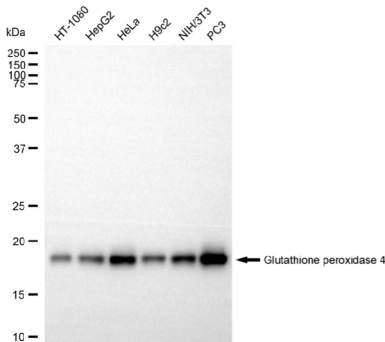
Research Area

Signal Transduction,Cancer,Metabolism

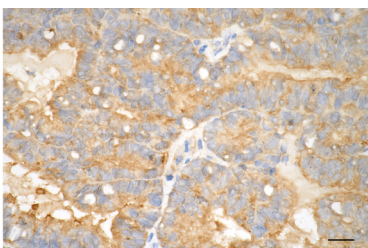
Image Data



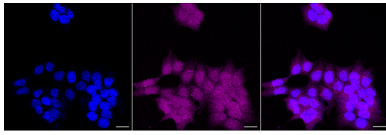
Western blotting analysis using glutathione peroxidase 4 antibody (KVA01398). Glutathione peroxidase 4 expression in wild type (WT) and glutathione peroxidase 4 (GPX4) knockdown (KD) HSHC cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with glutathione peroxidase 4 antibody (KVA01398, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



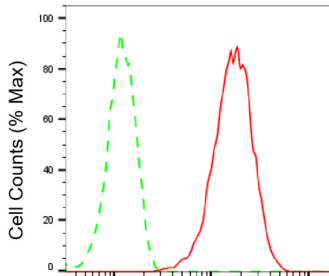
Western blotting analysis using glutathione peroxidase 4 antibody (KVA01398). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with glutathione peroxidase 4 antibody (KVA01398, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



Immunohistochemistry was performed on paraffin-embedded human endometrial carcinoma using glutathione peroxidase 4 antibody (KVA01398, 1:200). Antigen retrieval was done in sodium citrate buffer (pH 6.0). DAB was used for detection, with hematoxylin counterstaining. Images were acquired using a Nikon Ci-L Plus microscope (40× objective). Scale bar: 25 µm.



Immunocytochemical staining of HAP-1 cells with Glutathione peroxidase 4 antibody (KVA01398, 1:1,000). Nuclei were stained blue with DAPI; Glutathione peroxidase 4 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar, 20 μ m.



Flow cytometric analysis of Glutathione peroxidase 4 expression in HAP-1 cells using Glutathione peroxidase 4 antibody (KVA01398, 1:2,000). Green, isotype control; red, Glutathione peroxidase 4.

Glutathione peroxidase 4-Alexa Fluor® 647