

Anti-Glutathione Peroxidase 1 Antibody [C5-F6]

EM40708



| | |
|----------------------------|--|
| Product Type: | Mouse monoclonal IgG2b, primary antibodies |
| Species reactivity: | Human |
| Applications: | WB, IF-Cell, IHC-P, FC |
| Molecular Wt: | Predicted band size: 22 kDa |
| Clone number: | C5-F6 |

Description: GPX1 is ubiquitously expressed in many tissues, where it protects cells from oxidative stress. Within cells, it localizes to the cytoplasm and mitochondria. As a glutathione peroxidase, GPx1 functions in the detoxification of hydrogen peroxide, specifically by catalyzing the reduction of hydrogen peroxide to water. The glutathione peroxidase also catalyzes the reduction of other organic hydroperoxides, such as lipid peroxides, to the corresponding alcohols. GPx1 typically uses glutathione (GSH) as the reductant, but when glutathione synthetase (GSS) is, as in brain mitochondria, γ -glutamylcysteine can serve as the reductant instead. The protein encoded by this gene protects from CD95-induced apoptosis in cultured breast cancer cells and inhibits 5-lipoxygenase in blood cells, and its overexpression delays endothelial cell death and increases resistance to toxic challenges, especially oxidative stress. This protein is one of only a few proteins known in higher vertebrates to contain selenocysteine, which occurs at the active site of glutathione peroxidase and is coded by the nonsense (stop) codon TGA.

Immunogen: Recombinant protein within Human Glutathione Peroxidase 1 aa 25-203 / 203.

Positive control: THP-1 cell lysate, HEK-293 cell lysate, HepG2 cell lysate, SH-SY5Y cell lysate, HT-29 cell lysate, Hela, HepG2, human kidney tissue.

Subcellular location: Cytoplasm.

Database links: SwissProt: P07203 Human

Recommended Dilutions:

| | |
|----------------|-------------|
| WB | 1:2,000 |
| IHC-P | 1:200 |
| IF-Cell | 1:200 |
| FC | 1:100-1:200 |

Storage Buffer: 1*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4°C. Store at +4°C short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20°C long term.

Purity: Protein A affinity purified.

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Orders:0086-571-88062880

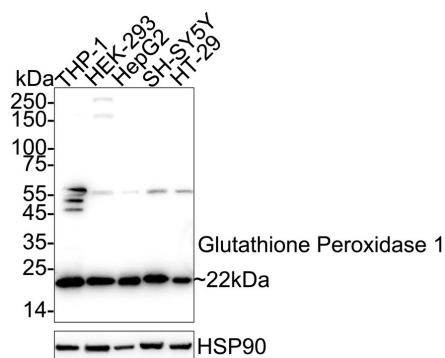
Technical:0086-571-89986345

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Images

Fig1: Western blot analysis of Glutathione Peroxidase 1 on different lysates with Mouse anti-Glutathione Peroxidase 1 antibody (EM40708) at 1/2,000 dilution.



Lane 1: THP-1 cell lysate
 Lane 2: HEK-293 cell lysate
 Lane 3: HepG2 cell lysate
 Lane 4: SH-SY5Y cell lysate
 Lane 5: HT-29 cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 22 kDa
 Observed band size: 22 kDa

Exposure time: 10 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (EM40708) at 1/2,000 dilution was used in 5% NFDM/TBST at 4°C overnight. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1/50,000 dilution was used for 1 hour at room temperature.

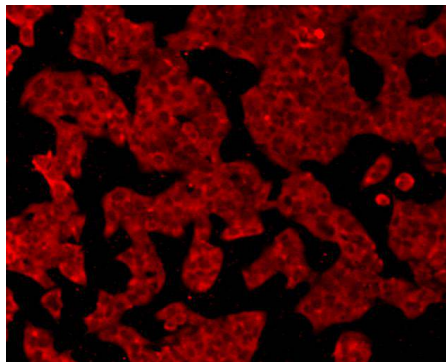


Fig2: ICC staining GPX1 in HeLa cells (red). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

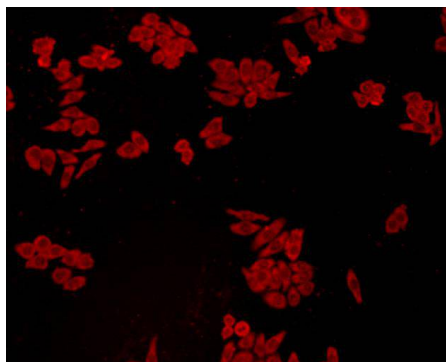


Fig3: ICC staining GPX1 in HepG2 cells (red). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

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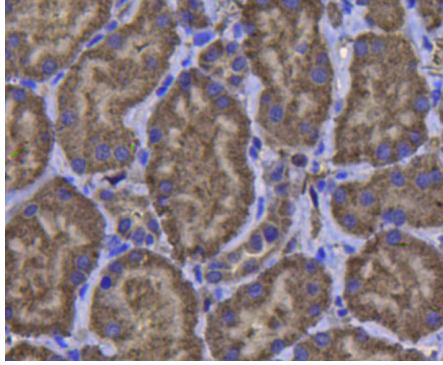


Fig4: Immunohistochemical analysis of paraffin-embedded human kidney tissue using anti-GPX1 antibody. Counter stained with hematoxylin.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. "Association between the GCG polymorphism of the selenium dependent GPX1 gene and the risk of young onset prostate cancer." Kote-Jarai Z., Durocher F., Edwards S.M., Hamoudi R., Jackson R.A., Ardern-Jones A., Murkin A., Dearnaley D.P., Kirby R., Houlston R., Easton D.F., Eeles R. *Prostate Cancer Prostatic Dis.* 5:189-192(2002)
2. "Functional variants in the glutathione peroxidase-1 (GPX-1) gene are associated with increased intima-media thickness of carotid arteries and risk of macrovascular diseases in Japanese type 2 diabetic patients." Hamanishi T., Furuta H., Kato H., Doi A., Tamai M., Shimomura H., Sakagashira S., Nishi M., Sasaki H., Sanke T., Nanjo K. *Diabetes* 53:2455-2460(2004)

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