

# Anti-Glutathione Peroxidase 1 Antibody [JF0944]

## ET1702-09



<b>Product Type:</b>	Recombinant Rabbit monoclonal IgG, primary antibodies
<b>Species reactivity:</b>	Human, Mouse
<b>Applications:</b>	WB, IF-Tissue, IHC-P
<b>Molecular Wt:</b>	Predicted band size: 22 kDa
<b>Clone number:</b>	JF0944

**Description:** Glutathione peroxidase (GPx) enzymes are generally selenium-containing tetrameric glycoproteins that help prevent lipid peroxidation of cell membranes. GPx enzymes reduce lipid hydroperoxides to alcohols, and reduce free hydrogen peroxide to water. GPx members are among the 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. There are eight GPx homologs (GPx-1-8). GPx-1, Gpx-2 and Gpx-3 exist as homotetramers. Gpx-4 has a high tendency to form high molecular weight oligomers. GPx-1 plays an important role in the antioxidant defense of the vascular wall and neural cells in response to oxidative stress. GPx-2 is the major isoform in the lungs and its basal or inducible expression is dependent on Nrf2. GPx-3 is under regulation by hypoxic stress and the expression and deficiency of GPx-3 is associated with cardiovascular disease and stroke. GPx-5 is selenium-independent; it is bound to the acrosome of sperm, where it may protect sperm from premature acrosome reaction in the epididymis.

**Immunogen:** Synthetic peptide within Human Glutathione Peroxidase 1 aa 1-50 / 203.

**Positive control:** SH-SY5Y cell lysate, THP-1 cell lysate, HEK-293 cell lysate, human liver tissue, human kidney tissue, mouse colon tissue, human tonsil tissue, human breast carcinoma tissue.

**Subcellular location:** Cytoplasm.

**Database links:** SwissProt: P07203 Human | P11352 Mouse

**Recommended Dilutions:**

<b>WB</b>	1:1,000-1:2,000
<b>IF-Tissue</b>	1:50-1:200
<b>IHC-P</b>	1:50-1:1,000

**Storage Buffer:** 1\*TBS (pH7.4), 0.05% 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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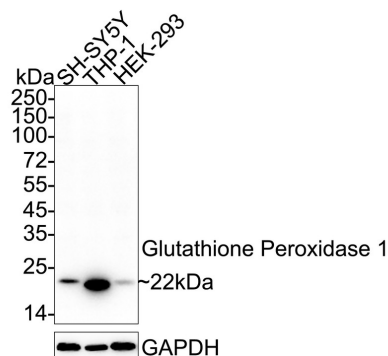
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## Images



**Fig1:** Western blot analysis of Glutathione Peroxidase 1 on different lysates with Rabbit anti-Glutathione Peroxidase 1 antibody (ET1702-09) at 1/1,000 dilution.

Lane 1: SH-SY5Y cell lysate

Lane 2: THP-1 cell lysate

Lane 3: HEK-293 cell lysate

Lysates/proteins at 20 µg/Lane.

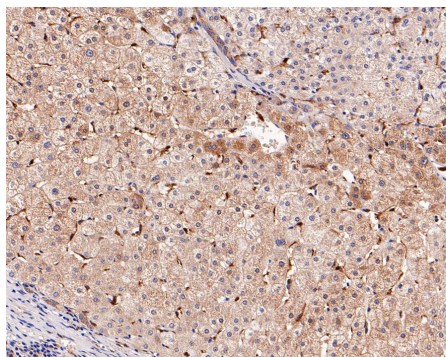
Predicted band size: 22 kDa

Observed band size: 22 kDa

Exposure time: 25 seconds; ECL: K1802;

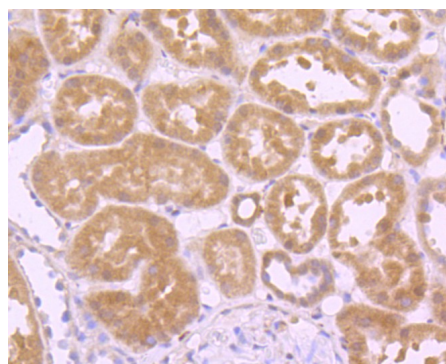
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1702-09) at 1/1,000 dilution was used in 5% NFDM/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.



**Fig2:** Immunohistochemical analysis of paraffin-embedded human liver tissue with Rabbit anti-Glutathione Peroxidase 1 antibody (ET1702-09) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (ET1702-09) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.



**Fig3:** Immunohistochemical analysis of paraffin-embedded human kidney tissue using anti-Glutathione Peroxidase 1 antibody. Counter stained with hematoxylin.

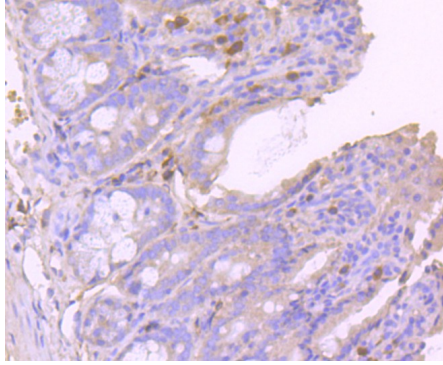
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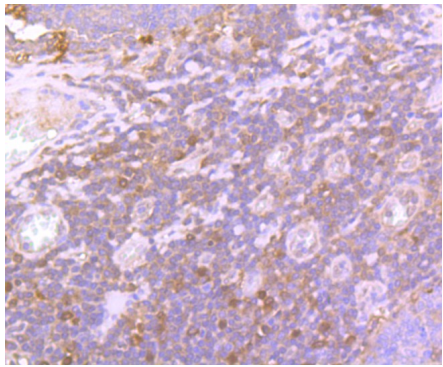
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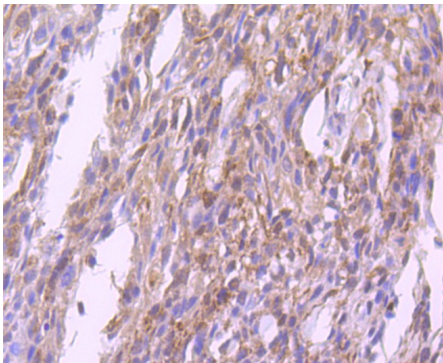
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**Fig4:** Immunohistochemical analysis of paraffin-embedded mouse colon tissue using anti-Glutathione Peroxidase 1 antibody. Counter stained with hematoxylin.



**Fig5:** Immunohistochemical analysis of paraffin-embedded human tonsil tissue using anti-Glutathione Peroxidase 1 antibody. Counter stained with hematoxylin.



**Fig6:** Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using anti-Glutathione Peroxidase 1 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. Crilly MJ et al. The role of Nrf2 in skeletal muscle contractile and mitochondrial function. J Appl Physiol (1985) 121:730-40 (2016).
2. Di Filippo C et al. Daily Oxygen/O3 Treatment Reduces Muscular Fatigue and Improves Cardiac Performance in Rats Subjected to Prolonged High Intensity Physical Exercise. Oxid Med Cell Longev 2015:190640 (2015).

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