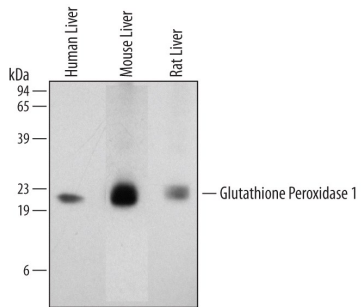
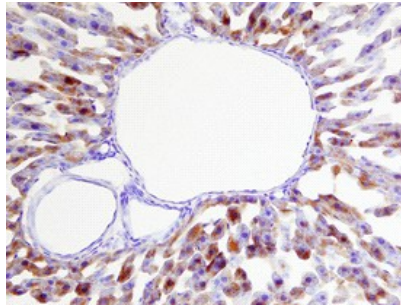
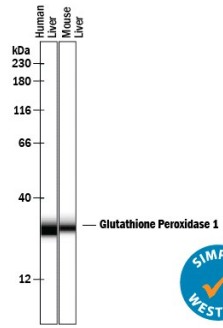

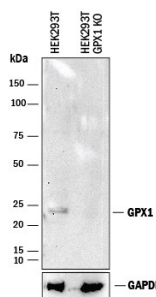


| DESCRIPTION | |
|---------------------------|---|
| Species Reactivity | Human/Mouse/Rat |
| Specificity | Detects endogenous human, mouse, and rat GPX1. In Western blots, this antibody shows no cross-reactivity with recombinant human GPX2 or GPX3. |
| Source | Polyclonal Goat IgG |
| Purification | Antigen Affinity-purified |
| Immunogen | <i>E. coli</i> -derived recombinant human Glutathione Peroxidase 1 Gly48-Ala201 Accession # P07203 |
| Formulation | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS. |

| APPLICATIONS | |
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| Please Note: Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website. | |
| | Recommended Concentration Sample |
| Western Blot | 1 µg/mL See Below |
| Immunohistochemistry | 5-15 µg/mL See Below |
| Simple Western | 10 µg/mL See Below |
| Knockout Validated | Glutathione Peroxidase 1/GPX1 is specifically detected in HEK293T human embryonic kidney parental cell line but is not detectable in Glutathione Peroxidase 1/GPX1 knockout HEK293T cell line. |

| DATA | |
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| <p>Western Blot</p>  <p>Detection of Human/Mouse/Rat Glutathione Peroxidase 1 by Western Blot. Western blot shows lysates of human, mouse and rat liver tissue. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human/Mouse/Rat Glutathione Peroxidase 1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3798) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Glutathione Peroxidase 1 at approximately 22 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 2.</p> | <p>Immunohistochemistry</p>  <p>Glutathione Peroxidase 1/GPX1 in Rat Liver. Glutathione Peroxidase 1/GPX1 was detected in perfusion fixed frozen sections of rat liver using 15 µg/mL Goat Anti-Human/Mouse/Rat Glutathione Peroxidase 1/GPX1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3798) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific labeling was localized to the cytoplasm in hepatocytes. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.</p> |

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| <p>Simple Western</p>  <p>Detection of Human and Mouse Glutathione Peroxidase 1/GPX1 by Simple Western™. Simple Western lane view shows lysates of human liver tissue and mouse liver tissue, loaded at 0.2 mg/mL. A specific band was detected for Glutathione Peroxidase 1/GPX1 at approximately 30 kDa (as indicated) using 10 µg/mL of Goat Anti-Human/Mouse/Rat Glutathione Peroxidase 1/GPX1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3798) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.</p>  |
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| <p>Knockout Validated</p>  <p>Western Blot Shows Human Glutathione Peroxidase 1/GPX1 Specificity by Using Knockout Cell Line. Western blot shows lysates of HEK293T human embryonic kidney parental cell line and Glutathione Peroxidase 1/GPX1 knockout HEK293T cell line (KO). PVDF membrane was probed with 1 µg/mL of Goat Anti-Human/Mouse/Rat Glutathione Peroxidase 1/GPX1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3798) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Glutathione Peroxidase 1/GPX1 at approximately 24 kDa (as indicated) in the parental HEK293T cell line, but is not detectable in knockout HEK293T cell line. GAPDH (Catalog # AF5718) is shown as a loading control. This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p> |
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PREPARATION AND STORAGE

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| Reconstitution | Reconstitute at 0.2 mg/mL in sterile PBS. |
| Shipping | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C |
| Stability & Storage | Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none">● 12 months from date of receipt, -20 to -70 °C as supplied.● 1 month, 2 to 8 °C under sterile conditions after reconstitution.● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |

BACKGROUND

Glutathione Peroxidase 1 (GPX1), also known as Cellular Glutathione Peroxidase, is a 201 amino acid, 23 kDa member of the glutathione peroxidase antioxidant enzyme family. The Glutathione Peroxidase family protects cell surfaces, extracellular fluid components, and enzymes from oxidative stress by catalysing the reduction of hydrogen peroxide, lipid peroxides, and organic hydroperoxide using reduced glutathione. GPX1 is a 92 kDa homotetramer consisting of four identical 23 kDa subunits, each containing a selenocysteine residue at the active site. GPX1 is an important antioxidant enzyme and protects red blood cells and other cells from oxidative damage. Deficiencies in red cell GPX1 have been associated with hemolytic anemia. Two alternatively spliced transcript variants encoding distinct isoforms have been found for this gene.