**BACKGROUND**

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.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: GPX4 (human) mapping to 19p13.3; GPx4 (mouse) mapping to 10 C1.

**SOURCE**

GPx-4 (B-12) is a mouse monoclonal antibody raised against amino acids 108-197 mapping at the C-terminus of GPx-4 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG κ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GPx-4 (B-12) is available conjugated to agarose (sc-166120 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166120 HRP), 200 µg/ml, for WB, IHCP and ELISA; to either phycoerythrin (sc-166120 PE), fluorescein (sc-166120 FITC), Alexa Fluor® 488 (sc-166120 AF488), Alexa Fluor® 546 (sc-166120 AF546), Alexa Fluor® 594 (sc-166120 AF594) or Alexa Fluor® 647 (sc-166120 AF647), 200 µg/ml, for WB (RGB), IF, IHCP and FCM; and to either Alexa Fluor® 680 (sc-166120 AF680) or Alexa Fluor® 790 (sc-166120 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**RESEARCH USE**

For research use only, not for use in diagnostic procedures.

**APPLICATIONS**

GPx-4 (B-12) is recommended for detection of GPx-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GPx-4 siRNA (h): sc-44465, GPx-4 siRNA (m): sc-63302, GPx-4 shRNA Plasmid (h): sc-44465-SH, GPx-4 shRNA Plasmid (m): sc-63302-SH, GPx-4 shRNA (h) Lentiviral Particles: sc-44465-V and GPx-4 shRNA (m) Lentiviral Particles: sc-63302-V.

Molecular Weight of GPx-4: 21 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, rat testis extract: sc-2400 or mouse testis extract: sc-2405.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG BP-HRP: sc-516102 or m-IgG BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG BP-FITC: sc-516140 or m-IgG BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

**DATA**

GPx-4 (B-12): sc-166120. Western blot analysis of GPx-4 expression in Jurkat whole cell lysate (A) and mouse testis tissue extract (B).

GPx-4 (B-12): sc-166120. Western blot analysis of GPx-4 expression in rat testis tissue extract.

**SELECT PRODUCT CITATIONS**


**STORAGE**

Store at 4°C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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