SANTA CRUZ BIOTECHNOLOGY, INC.

GPx-3 (55A): sc-69781

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The Power to Question

BACKGROUND

Glutathione peroxidase (GPx) enzymes are generally a selenium-containing tetrameric glycoprotein that helps prevent lipid peroxidation of cell membranes. GPx enzymes reduce lipid hydroperoxides to alcohols, and reduce free hydrogen peroxide to water. GPx members are of 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. 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, its basal or inducible expression is dependent on Nrf2. GPx-3 is under regulation by hypoxic stress. The expression and deficiency of GPx-3 is associated with cardiovascular disease and stroke. GPx-5 is selenium- independent and is bound to the acrosome of sperm, where it may protect sperm from premature acrosome reaction in the epididymis.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: GPX3 (human) mapping to 5q33.1.

SOURCE

GPx-3 (55A) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 21-226 of GPx-3 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GPx-3 (55A) is recommended for detection of GPx-3 of human origin by immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GPx-3 siRNA (h): sc-62417, GPx-3 shRNA Plasmid (h): sc-62417-SH and GPx-3 shRNA (h) Lentiviral Particles: sc-62417-V.

Molecular Weight of GPx-3 monomer: 23 kDa.

Molecular Weight of GPx-3 homotetramer: 92 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.