SANTA CRUZ BIOTECHNOLOGY, INC.

GPx-5 (T-17): sc-54826

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 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

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3. Mork, H., et al. 2000. Inverse mRNA expression of the selenocysteine-containing proteins GI-GPx and SeP in colorectal adenomas compared with adjacent normal mucosa. Nutr. Cancer 37: 108-116.
4. Crack, P.J., et al. 2001. Increased infarct size and exacerbated apoptosis in the glutathione peroxidase-1 (Gpx-1) knockout mouse brain in response to ischemia/reperfusion injury. J. Neurochem. 78: 1389-1399.
5. Nasr, M.A., et al. 2004. GPx-1 modulates Akt and P70S6K phosphorylation and Gadd45 levels in MCF-7 cells. Free Radic. Biol. Med. 37: 187-195.
6. Hussain, S.P., et al. 2004. p53-induced upregulation of MnSOD and GPx but not catalase increases oxidative stress and apoptosis. Cancer Res. 64: 2350-2356.
7. Hamanishi, T., et al. 2004. 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. Diabetes 53: 2455-2460.
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CHROMOSOMAL LOCATION

Genetic locus: Gpx5 (mouse) mapping to 13 A3.1.

RESEARCH USE

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

SOURCE

GPx-5 (T-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GPx-5 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-54826 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

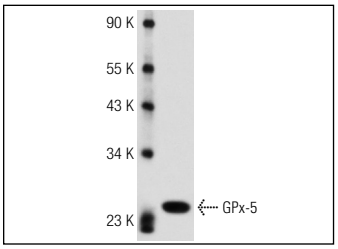
GPx-5 (T-17) is recommended for detection of GPx-5 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GPx-5 siRNA (m): sc-62420; GPx-5 shRNA Plasmid (m): sc-62420-SH and GPx-5 shRNA (m) Lentiviral Particles: sc-62420-V.

Molecular Weight predicted of GPx-5: 25 kDa.

Positive Controls: mouse epididymis tissue extract.

DATA



GPx-5 (T-17): sc-54826. Western blot analysis of GPx-5 expression in mouse epididymis tissue extract.

STORAGE

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

PROTOCOLS

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