

PRX III (1): sc-130336

BACKGROUND

The peroxiredoxin (PRX) family comprises six antioxidant proteins, PRX I, II, III, IV, V and VI, which protect cells from reactive oxygen species (ROS) by preventing the metal-catalyzed oxidation of enzymes. The PRX proteins primarily utilize thioredoxin as the electron donor for antioxidantation, although they are fairly promiscuous with regard to the hydroperoxide substrate. In addition to protection from ROS, peroxiredoxins are also involved in cell proliferation, differentiation and gene expression. PRX I, II, IV and VI show diffuse cytoplasmic localization, while PRX III and V exhibit distinct mitochondrial localization. The human PRX I gene encodes a protein that is expressed in several tissues, including liver, kidney, testis, lung and nervous system. PRX II is expressed in testis, while PRX III shows expression in lung. PRX I, II and III are over-expressed in breast cancer and may be involved in its development or progression. Upregulated protein levels of PRX I and II in Alzheimer's disease (AD) and Down syndrome (DS) indicate the involvement of PRX I and II in their pathogenesis. The human PRX IV gene is abundantly expressed in many tissues. PRX IV exists as a precursor protein, which is only detected in testis, and a processed secreted form. PRX V also exists as two forms, designated long and short. Like PRX IV, the long form of PRX V is highly expressed in testis. The short form of PRX V is more widely expressed, with high expression in liver, kidney, heart and lung. PRX VI, a 1-Cys peroxiredoxin (also known as antioxidant protein 2 or AOP2), is highly expressed in most tissues, particularly in epithelial cells. Localized to the cell cytosol, PRX VI functions independently of other peroxiredoxins and antioxidant proteins, specializing in antioxidant defense, lung phospholipid metabolism and protection of keratinocytes from cell death induced by reactive oxygen species.

CHROMOSOMAL LOCATION

Genetic locus: PRDX3 (human) mapping to 10q26.11; Prdx3 (mouse) mapping to 19 D3.

SOURCE

PRX III (1) is a mouse monoclonal antibody raised against recombinant PRX III of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PRX III (1) is available conjugated to agarose (sc-130336 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-130336 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-130336 PE), fluorescein (sc-130336 FITC), Alexa Fluor® 488 (sc-130336 AF488), Alexa Fluor® 546 (sc-130336 AF546), Alexa Fluor® 594 (sc-130336 AF594) or Alexa Fluor® 647 (sc-130336 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-130336 AF680) or Alexa Fluor® 790 (sc-130336 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

PRX III (1) is recommended for detection of PRX III of mouse, rat and human 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PRX III siRNA (h): sc-40833, PRX III siRNA (m): sc-40834, PRX III shRNA Plasmid (h): sc-40833-SH, PRX III shRNA Plasmid (m): sc-40834-SH, PRX III shRNA (h) Lentiviral Particles: sc-40833-V and PRX III shRNA (m) Lentiviral Particles: sc-40834-V.

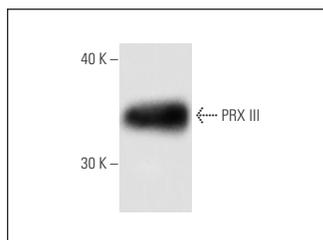
Molecular Weight of PRX III: 26 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 whole cell lysate: sc-2206 or A-431 whole cell lysate: sc-2201.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (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).

DATA



PRX III (1): sc-130336. Western blot analysis of human recombinant PRX III.

SELECT PRODUCT CITATIONS

- Smuder, A.J., et al. 2020. Hyperbaric oxygen treatment following mid-cervical spinal cord injury preserves diaphragm muscle function. *Int. J. Mol. Sci.* 21: E7219.

RESEARCH USE

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

PROTOCOLS

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