PRX (A-6): sc-137150

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 antioxidation, 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 overexpressed in breast cancer and may be involved in its development or progression. Uprogulated 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.

REFERENCES


SOURCE

PRX (A-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 123-161 near the N-terminus of PRX II of human origin.

PRODUCT

Each vial contains 200 µg IgG2b kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Blocking peptide available for competition studies, sc-137150 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PRX (A-6) is recommended for detection of PRX I, PRX II and PRX IV 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).

PRX (A-6) is also recommended for detection of PRX I, PRX II and PRX IV in additional species, including equine and porcine. Suitable for use as control antibody for PRX siRNA (h): sc-37151, PRX siRNA (m): sc-37152, PRX shRNA Plasmid (h): sc-37151-SH, PRX shRNA Plasmid (m): sc-37152-SH, PRX shRNA (h) Lentiviral Particles: sc-37151-V and PRX shRNA (m) Lentiviral Particles: sc-37152-V.

Molecular Weight of PRX: 25 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Hep G2 cell lysate: sc-2227 or rat brain extract: sc-2392.

DATA

PRX (A-6): sc-137150. Western blot analysis of PRX expression in K-562 (A), Hep G2 (B), NIH/3T3 (C), KNRK (D) and F9 (E) whole cell lysates and rat brain tissue extract (F).

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.

PROTOCOLS

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