

PRX VI (FL-224): sc-134478

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 antioxidant, 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, III, 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. 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.

REFERENCES

- Iwahara, S., et al. 1995. Purification, characterization, and cloning of a heme-binding protein (23 kDa) in rat liver cytosol. *Biochemistry* 34: 13398-13406.
- Butterfield, L.H., et al. 1999. From cytoprotection to tumor suppression: the multifactorial role of peroxiredoxins. *Antioxid. Redox Signal.* 1: 385-402.

CHROMOSOMAL LOCATION

Genetic locus: PRDX6 (human) mapping to 1q25.1; Prdx6 (mouse) mapping to 1 H2.1.

SOURCE

PRX VI (FL-224) is a rabbit polyclonal antibody raised against amino acids 1-224 representing full length PRX VI of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

PRX VI (FL-224) is recommended for detection of PRX VI 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)], 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).

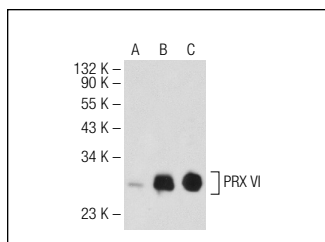
PRX VI (FL-224) is also recommended for detection of PRX VI in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PRX VI siRNA (h): sc-62896, PRX VI siRNA (m): sc-62897, PRX VI shRNA Plasmid (h): sc-62896-SH, PRX VI shRNA Plasmid (m): sc-62897-SH, PRX VI shRNA (h) Lentiviral Particles: sc-62896-V and PRX VI shRNA (m) Lentiviral Particles: sc-62897-V.

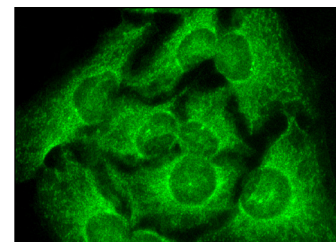
Molecular Weight of PRX VI: 25 kDa.

Positive Controls: PRX VI (h): 293T Lysate: sc-115407, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

DATA



PRX VI (FL-224): sc-134478. Western blot analysis of PRX VI expression in non-transfected 293T: sc-117752 (A), human PRX VI transfected 293T: sc-115407 (B) and K-562 (C) whole cell lysates.



PRX VI (FL-224): sc-134478. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

- Vázquez-Medina, J.P., et al. 2011. Prolonged fasting increases glutathione biosynthesis in postweaned northern elephant seals. *J. Exp. Biol.* 214: 1294-1299.
- Vázquez-Medina, J.P., et al. 2011. Antioxidant capacity develops with maturation in the deep-diving hooded seal. *J. Exp. Biol.* 214: 2903-2910.
- Zhou, Y.C., et al. 2012. Effects of buyang huanwu decoction on ventricular remodeling and differential protein profile in a rat model of myocardial infarction. *Evid. Based Complement. Alternat. Med.* 2012: 385247.

RESEARCH USE

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

MONOS
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Try **PRX VI (D-9): sc-166454** or **PRX VI (G-7): sc-393025**, our highly recommended monoclonal alternatives to PRX VI (FL-224).