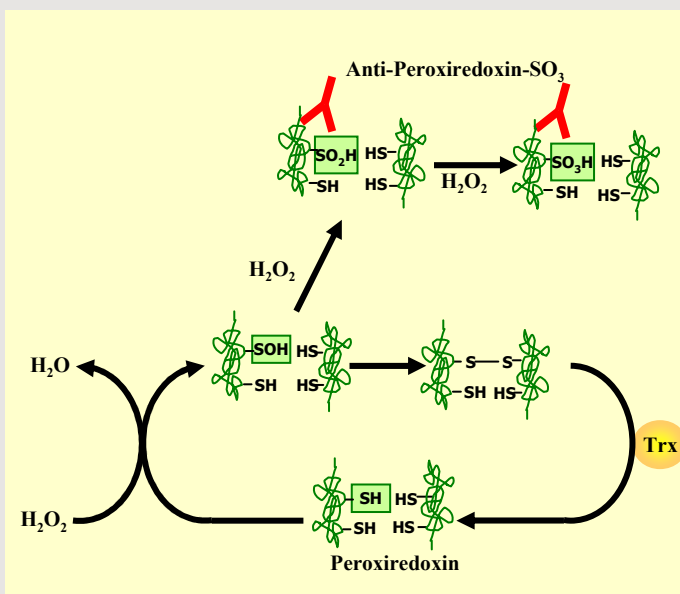


Anti-Peroxiredoxin-SO₃

Background : Peroxiredoxin(Prx) is an antioxidant enzyme detoxifying reactive oxygen species and has a cysteine at their active site. Prx enzymes modulate various receptor signaling pathways and protect cells from oxidatively induced death. Prx I to IV have two conserved Cys residues corresponding to Cys⁵¹ and Cys¹⁷² of mammalian Prx I. The active site cysteine(Cys⁵¹) is oxidized to cysteine sulfenic acid(Cys⁵¹-SOH) when a peroxide is reduced. Because Cys⁵¹-SOH is unstable, it forms a disulfide with Cys¹⁷²-SH which comes from other subunit of the homodimer. The disulfide is then reduced back to the Prx active thiol form by the thioredoxin-thioredoxin reductase system. However, the formation of the disulfide is a slow process. Thus under oxidative stress condition, the sulfenic intermediate(Cys⁵¹-SOH) can be easily overoxidized to cysteine sulfinic acid(Cys-SO₂H) or cysteine sulfonic acid(Cys-SO₃H) before it is able to form a disulfide. Recent studies suggest that overoxidized Prx can be reduced back to the active form during recovery after oxidative stress. Anti-Prx-SO₃ antibody recognizes both sulfinic and sulfonic forms of Prx and detects overoxidized Prx enzymes in H₂O₂-treated cells with high sensitivity and specificity.

Immunogen : Sulfonylated peptide(KLH coupled) corresponding to the active site sequence common to Human Prx I to IV



Species cross reactivity

Human
+

Mouse
+

Rat
+

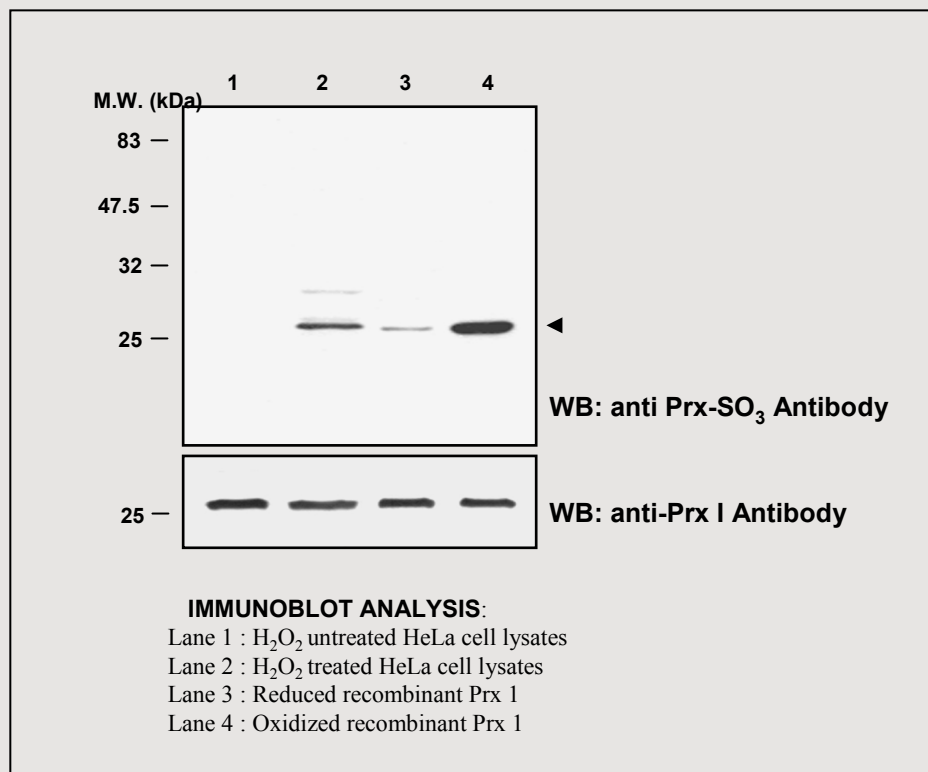
Host: Rabbit

Composition : PBS containing 50% glycerol

Specificity: Sulfinic and sulfonic form of Prx I to IV

Size : 100ul

Storage : Store for 1 year at -20 °C from date of shipment



Applications :

Western blotting (1:2,000)

Background Reference :

- (1) Woo H.A., et al. (2003) *J. Biol. Chem.* **278**(48):47361-47364
- (2) Woo H.A., et al. (2003) *Science*, **300**:653-656
- (3) Chevallet M., et al. (2003) *J. Biol. Chem.* **278**(39): 37146-37153
- (4) Angelika Tolle, et al.(2005) *Free Radic Biol Med.* **38**:1401-1408
- (5) James W. Baty, et al.(2005) *Biochem. J* 3 Mar Published
- (6) Min Hee Choi et al. (2005) *Nature letters* **435**(19): 347-353

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