

Peroxiredoxin-SO3 Antibody

Lot Number: QI2079321
Product Data Sheet

Tested Species Reactivity	Published Species Reactivity
Human (Hu)	Human (Hu)
Mouse (Ms)	Mouse (Ms)

Tested Applications	Dilution *
Western Blot (WB)	1:1000-1:2000
Published Applications	Dilution
Western Blot (WB)	See publications

* Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own experiment using appropriate negative and positive controls.

Details	
Catalog Number:	LF-PA0004
Size:	100 µL
Class:	Polyclonal
Type:	Antibody
Clone:	
Host / Isotype:	Rabbit / IgG
Immunogen:	Sulfonylated peptide, KLH coupled, corresponding to the active site sequence common to human Prx I to IV.

Form Information	
Form:	Liquid
Purification:	Ammonium sulfate precipitation
Storage Buffer:	HEPES with 0.15M NaCl, 0.01% BSA, 50% glycerol
Preservative:	0.03% sodium azide
Storage Conditions:	-20° C, Avoid Freeze/Thaw Cycles

Product Specific Information	General Information
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A suggested positive control for this product is HeLa cells treated with H2O2.

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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.

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