

**Prdx1 (D5G12) Rabbit mAb**

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	21	Rabbit IgG	#Q06830	5052

**Product Usage Information****Application**

Western Blotting

**Dilution**

1:1000

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

Prdx1 (D5G12) Rabbit mAb recognizes endogenous levels of total Prdx1 protein. This antibody does not cross-react with Prdx2 protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg110 of human Prdx1 protein.

**Background**

Prdx1 belongs to a family of non-seleno peroxidases that function as H<sub>2</sub>O<sub>2</sub> scavengers. All 6 Prdx isoforms share a conserved N-terminal cysteine (Cys51) that is oxidized by H<sub>2</sub>O<sub>2</sub> to form cysteine-sulfenic acid (Cys51-SOH) and, in turn, reacts with Cys172-SH of another Prdx protein, forming a disulfide dimer and protecting it from degradation (1-3). Abnormally high levels of H<sub>2</sub>O<sub>2</sub> cause Prdx1 to form an oligomeric chaperone that loses its peroxidase activity (4). Prdx family members have been reported to bind to JNK and c-Abl and regulate their kinase activity (5,6). Prdx1 was shown to bind to PTEN and regulate its phosphatase activity in conditions of mild or no cellular stress, hence preventing Akt-driven transformation by protecting PTEN from oxidation-induced inactivation (7).

**Background References**

1. Wood, Z.A. et al. (2003) *Trends Biochem Sci* 28, 32-40.
2. Chae, H.Z. et al. (1994) *J Biol Chem* 269, 27670-8.
3. Chae, H.Z. et al. (1994) *Proc Natl Acad Sci U S A* 91, 7022-6.
4. Jang, H.H. et al. (2004) *Cell* 117, 625-35.
5. Wen, S.T. and Van Etten, R.A. (1997) *Genes Dev* 11, 2456-67.
6. Kim, Y.J. et al. (2006) *Cancer Res* 66, 7136-42.
7. Cao, J. et al. (2009) *EMBO J* 28, 1505-17.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

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