

# Recombinant Full Length Human PRDX1 Protein, His-tagged

Cat. No. PRDX1-134H Lot. No. (See product label)

## SPECIFICATION

<b>Product Overview</b>	Recombinant human PRDX1, fused to His-tag at N-terminus, was expressed in E.coli and purified by conventional chromatography techniques, 24 kDa (219 aa).
<b>Species</b>	Human
<b>Source</b>	E.coli
<b>ProteinLength</b>	1-199 a.a.
<b>Description</b>	PRDX1 is a member of the peroxiredoxin family of antioxidant enzymes, which reduce hydrogen peroxide and alkyl hydroperoxides. This protein is also known to be important to protect red blood cells against reactive oxygen species and in tumor prevention.
<b>Sequences of amino acids</b>	MGSSHHHHHH SSGLVPRGSH MSSGNAKIGH PAPNFKATAV MPDGQFKDIS LSDYKGGKYVV FFFYPLDFTF VCPTEIIAFS DRAEEFKKLN CQVIGASVDS HFCHLAWVNT PKKQGGGLGPM NIPLVSDPKR TIAQDYGVLK ADEGISFRGL FIIDDKGILR QITVNDLPVG RSVDETLRLV QAFQFTDKHG EVCPAGWKPG SDTIKPDVQK SKEYFSKQK
<b>Formulation</b>	Liquid. In 20 mM Tris-HCl buffer (pH 7.5) containing 20% glycerol
<b>Purity</b>	> 90% by SDS - PAGE
<b>Concentration</b>	1 mg/ml (determined by Bradford assay)

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**Biological activity**

Specific activity: approximately 600-670 pmole/min/g. Enzymatic activity was confirmed by measuring the remaining peroxide after incubation of PRDX1 and peroxide for 20 min at room temperature. Specific activity is defined as the amount of hydroperoxide that 1ug of enzyme can reduce at 25°C for 1 minute.

**Activity Assay**

1. Prepare a 50ul reaction mix into a suitable container: the final concentrations are 1mM DTT, 0.03X PBS, 0.5% glycerol. 2. Add 5 ul of recombinant PRDX1 solution with various concentrations (0.25ug, 0.5ug) in 45 ul reaction buffer. 3. Incubate at 25°C for 2 minutes. 4. Add 5ul of 5 mM H<sub>2</sub>O<sub>2</sub> as a substrate and incubate the mixture for 20 min. 5. Add 20ul of 26 % trichloroacetic acid (TCA) to stop the reaction. 6. Add 30ul of Formation solution (10mM Ferrous ammonium sulfate (Fe(II)(NH<sub>4</sub>)<sub>2</sub>(SO<sub>4</sub>)<sub>2</sub>), 2.5M KSCN). 7. Record the increase in A475nm.

**Storage**

Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

## GENE INFORMATION

**Gene Name**

PRDX1 peroxiredoxin 1 [ Homo sapiens ]

**Synonyms**

EC 1.11.1.15; MSP23; NKEF-A; NKEFA; OTTHUMP0000009234; PAG; PAGA; PAGB; PRX1; PRXI; TDPX2; Natural killer cell-enhancing factor A; Proliferation-associated gene protein; Thioredoxin peroxidase 2; Thioredoxin-dependent peroxide reductase 2; natural killer-enhancing factor A; peroxiredoxin 1; proliferation-associated gene A; PRDX1; natural killer-enhancing factor A; thioredoxin-dependent peroxide reductase 2; Peroxiredoxin-1

**Gene ID**

5052

**mRNA Refseq**

NM\_002574

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<b>Protein Refseq</b>	NP_002565
<b>MIM</b>	176763
<b>UniProt ID</b>	Q06830
<b>Chromosome Location</b>	1p34.1
<b>Function</b>	oxidoreductase activity; peroxiredoxin activity; protein binding

PDBrendering based on 1qq2. Available structures:1qq2



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