Recombinant Full Length Human PRDX1 Protein, His-tagged

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

SPECIFICATION

Product Overview	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).
Species	Human
Source	E.coli
ProteinLength	1-199 a.a.
Description	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.
Sequences of amino acids	MGSSHHHHHH SSGLVPRGSH MSSGNAKIGH PAPNFKATAV MPDGQFKDIS LSDYKGKYVV FFFYPLDFTF VCPTEIIAFS DRAEEFKKLN CQVIGASVDS HFCHLAWVNT PKKQGGLGPM NIPLVSDPKR TIAQDYGVLK ADEGISFRGL FIIDDKGILR QITVNDLPVG RSVDETLRLV QAFQFTDKHG EVCPAGWKPG SDTIKPDVQK SKEYFSKQK
Formulation	Liquid. In 20 mM Tris-HCl buffer (pH 7.5) containing 20% glycerol
Purity	> 90% by SDS - PAGE
Concentration	1 mg/ml (determined by Bradford assay)

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Biological activity	Specific activity: approximately 600-670 pmole/min/μg. 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 H2O2 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)(NH4)2(SO4)2), 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; OTTHUMP00000009234; 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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Protein Refseq	NP_002565
MIM	176763
UniProt ID	Q06830
Chromosome Location	1p34.1
Function	oxidoreductase activity; peroxiredoxin activity; protein binding
PDBrendering based on 1qq2. Available structures:1qq2	

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