

Recombinant Human Peroxiredoxin 6, His-tagged

Cat. No. PRDX6-188H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human peroxiredoxin 6 protein, fused to His-tag at N-terminus, was expressed in <i>E.coli</i> and purified by using conventional chromatography. MW = 27.1 kDa (244aa).
Species	Human
Source	E.coli
Description	Peroxiredoxin 6, also known as PRDX6, is a member of the thiol-specific antioxidant protein family. This protein is a bifunctional enzyme with two distinct active sites. It is involved in redox regulation of the cell and can reduce H ₂ O ₂ and short chain organic, fatty acid, and phospholipid hydroperoxides. It may play a role in the regulation of phospholipid turnover as well as in protection against oxidative injury.
Amino Acid Sequence	MGSSHHHHHH SSGLVPRGSH MPGGLLLGDV APNFEANTTV GRIRFHDFLG DSWGILFSHP RDFTPVCTTE LGRAAKLAPE FAKRNVKLIA LSIDSVEDHL AWSKDINAYN CEEPTEKLPF PIIDDRNREL AILLGMLDPA EKDEKGMPVT ARVVFVFGPD KKLKLSILYP ATTGRNFDEI LRVVISLQLT AEKRVATPVD WKDGDSVMVL PTIPEEEAKK LFPKGVFTKE LPSGKKYLRV TPQP.
Form	Liquid. In 20mM Tris-HCl buffer (pH8.0) containing 20% Glycerol.
Purity	> 95% by SDS – PAGE.
Concentration	1 mg/ml (determined by Bradford assay).

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

Biological activity	Specific activity: approximately 95-120 pmole/min/g. Enzymatic activity was confirmed by measuring the remaining peroxide after incubation of PRDX6 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 PRDX6 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 ₂ O ₂ 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 ₄) ₂ (SO ₄) 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	PRDX6 peroxiredoxin 6 [Homo sapiens]
Synonyms	PRDX6; peroxiredoxin 6; PRX; p29; AOP2; 1-Cys; NSGPx; aiPLA2; KIAA0106; MGC46173; 1-Cys peroxiredoxin; antioxidant protein 2; non-selenium glutathione peroxidase; acidic calcium-independent phospholipase A2; EC 1.11.1.15; EC 1.11.1.7; p29; Antioxidant protein 2; 1-Cys PRX; EC 3.1.1.-; 24 kDa protein; Liver 2D page spot 40; Red blood cells page spot 12; OTTHUMP00000032693; 1-Cys peroxiredoxin; Non-selenium glutathione peroxidase
Gene ID	9588
mRNA Refseq	NM_004905

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Protein Refseq	NP_004896
MIM	602316
UniProt ID	P30041
Chromosome Location	1q24.1
Pathway	Biosynthesis of phenylpropanoids; Metabolic pathways; Methane metabolism; Phenylalanine metabolism; Tropane, piperidine and pyridine alkaloid biosynthesis
Function	glutathione peroxidase activity; hydrolase activity; oxidoreductase activity; peroxiredoxin activity; phospholipase A2 activity
PDB rendering based on 1prx.	