

Recombinant Human Peroxiredoxin 5

Cat. No. PRDX5-181H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Peroxiredoxin 5 protein was expressed in <i>E. coli</i> and purified by using conventional chromatography techniques. MW = 17.0 kDa (162aa).
Species	Human
Source	E.coli
Protein Length	53-214 a.a.
Description	Peroxiredoxin 5, also known as PRDX5, is a member of the peroxiredoxin family of antioxidant enzymes, which reduces hydrogen peroxide and alkyl hydroperoxides with reducing equivalents provided through the thioredoxin system. This protein may play an antioxidant protective role in different tissues under normal conditions and during inflammatory processes. It has been reported that peroxiredoxin 5 is involved in intracellular redox signaling.
Amino Acid Sequence	MAPIKVGDAI PAVEVFEGEP GNKVNLAELF KGKKGVLFVG PGAFTPGCSK THLPGFVEQA EALKAKGVQV VACLSVNDAF VTGEWGRAHK AEGKVRLAD PTGAFGKETD LLLDDSLVSI FGNRRLLKRFS MVVQDGIVKA LNVEPDGTGL TCSLAPNIIS QL
Form	Liquid. In 20 mM HEPES buffer (pH 7.4).
Purity	> 95% by SDS – PAGE.

 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

Concentration	1 mg/ml (determined by Bradford assay).
Endotoxin Level	< 1.0 EU per 1 µg of protein (determined by LAL method).
Biological activity	Specific activity: approximately 117-136 pmole/min/g. Enzymatic activity was confirmed by measuring the remaining peroxide after incubation of PRDX5 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 PRDX5 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	PRDX5 peroxiredoxin 5 [Homo sapiens]
Synonyms	PRDX5; peroxiredoxin 5; PLP; ACR1; B166; PRXV; PMP20; PRDX6; SBBI10; AOEB166; MGC117264; MGC142283; MGC142285; TPx type VI; Alu co-repressor 1; antioxidant enzyme B166; thioredoxin peroxidase PMP20; liver tissue 2D-page spot 71B; peroxisomal antioxidant enzyme; EC 1.11.1.15; Peroxiredoxin-5, mitochondrial; Prx-V; PLP; Thioredoxin reductase; Thioredoxin peroxidase PMP20; Antioxidant enzyme B166; Alu corepressor 1

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Gene ID	25824
mRNA Refseq	NM_012094
Protein Refseq	NP_036226
MIM	606583
UniProt ID	P30044
Chromosome Location	11q13
Function	caspase inhibitor activity; oxidoreductase activity; peroxiredoxin activity
PDB rendering based on 1h4o.	