

Recombinant Human Peroxiredoxin 4, His-tagged

Cat. No. PRDX4-2048H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human PRDX4, fused to His-tag at N-terminus, was expressed in <i>E.coli</i> and purified by conventional chromatography techniques, 28.8kDa (255aa).
Species	Human
Source	E.coli
Description	PRDX4 is an antioxidant enzyme and belongs to the peroxiredoxin (Prdx, Prx, or TrxPx) family. This protein is localized to the cytoplasm. Peroxidases of the peroxiredoxin family reduce hydrogen peroxide and alkyl hydroperoxides to water and alcohol with the use of reducing equivalents derived from thiol-containing donor molecules. This protein regulates the of the transcription factor NF-kappaB in the cytosol by a modulation of I-kappa-B-alpha phosphorylation. The ubiquitously expressed peroxiredoxins have also been shown to play a role in apoptosis and cell differentiation.
Form	Liquid. 20mM Tris-HCl buffer (pH8.0) containing 10% glycerol.
Purity	> 90% by SDS - PAGE.
Concentration	1 mg/ml (determined by Bradford assay).
Sequences Of Amino Acids	MGSSHHHHHH SSGLVPRGSH MWETEERPRT REEECHFYG GQVYPGEASR VSVADHSLHL SKAKISKAP YWEGTAVIDG EFKEKLTDYRGKYLVEFFY PLDFTFVCPT EIIAFGDRLE EFRSINTEVV ACSVDSQFTH LAWINTPRRQ

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GGLGPIRIPL LSDLTHQISK DYGVYLED SGHTLRGLFIID DKGILRQITL NDL
PVGRSVD ETLRLVQAFQ YTDKHGEVCP AGWKPGSETI IPDPAGKLKY FDKLN.

Biological activity

Specific activity: approximately 230-310 pmole/min/g. Enzymatic activity was confirmed by measuring the remaining peroxide after incubation of PRDX4 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 PRDX4 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

PRDX4 peroxiredoxin 4 [Homo sapiens]

Synonyms

peroxiredoxin 4; PRX-4; AOE37-2; PRDX4; peroxiredoxin-4; prx-IV; peroxiredoxin IV; antioxidant enzyme AOE372; thioredoxin peroxidase A0372; thioredoxin peroxidase (antioxidant enzyme); thioredoxin-dependent peroxide reductase A0372; Antioxidant enzyme AOE372; Thioredoxin peroxidase A0372; Prx-IV; Thioredoxin-dependent peroxide reductase A0372; EC 1.11.1.15

Gene ID

10549

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mRNA Refseq	NM_006406
Protein Refseq	NP_006397
MIM	606506
UniProt ID	Q13162
Chromosome Location	Xp22.11
Function	oxidoreductase activity; thioredoxin peroxidase activity
PDB rendering based on 2pn8.	