

AR09413PU-N

Human Peroxiredoxin-4 / PRDX4 (38-271, His-tag) - Purified

Alternate names:

AOE37-2, Antioxidant enzyme AOE372, PRDX-4, Prx-4, Prx-IV, Prx4, Thioredoxin peroxidase AO372, Thioredoxin-dependent peroxide reductase A0372

Quantity:

0.1 mg

Concentration:

1.0 mg/ml (determined by Bradford assay)

Background:

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.

Uniprot ID:

[Q13162](#)

NCBI:

[NP_006397](#)

GenelD:

[10549](#)

Species:

Human

Source:

E. coli

Format:

State: Liquid purified protein

Purity: >95% by SDS - PAGE

Buffer System: 20 mM Tris-HCl buffer (pH 8.0) containing 10% glycerol

Description:

Recombinant human PRDX4, fused to His-tag at N-terminus, was expressed in E.coli and purified by conventional chromatography techniques.

AA Sequence:

MGSSHHHHHH SSGLVPRGSH MWETEERPT REEECHFYG QGVYPGEASR VSVADHSLHL
SKAKISKAP YWEGTAVIDG EFKEKLTDY RGKYLVEFFY PLDFTFVCPT EIIAFGDRLE
EFRSINTEVV ACSVDSQFTH LAWINTPRRQ GGLGPIRIPL LSDLTHQISK DYGVYLEDSE
HTLRGLFIID DKGILRQITL NDLPVGRSVD ETLRLVQAFQ YTDKHGEVCP AGWKPGSETI
IPDPAGKLKY FDKLN

Specific Activity: Approximately 230-310 pmole/min/μg.

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.

Molecular weight: 28.8 kDa (255 aa), confirmed by MALDI-TOF

Storage:

Store undiluted at 2-8°C for up to two weeks or (in aliquots) at -20°C or -70°C for longer.

Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

General Readings:

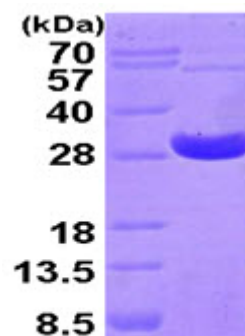
Wang HQ., et al. (2009) FEBS Lett. 583(9):1511-5.

Protocols:

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.

Pictures:



15% SDS-PAGE (3ug)

Recombinant human PRDX4, 38-271 aa,
His-tagged: 15% SDS-PAGE (3 µg)

