

AR09237PU-N

Human Peroxiredoxin-6 / PRDX6 (1-224, His-tag) - Purified

Alternate names:

1-Cys PRX, 1-Cys peroxiredoxin, AOP-2, AOP2, Acidic calcium-independent phospholipase A2, Antioxidant protein 2, KIAA0106, Liver 2D page spot 40, NSGPx, Non-selenium glutathione peroxidase, PRDX-6, Prx-6, Prx6, Red blood cells page spot 12, aiPLA2

Quantity:

0.1 mg

Concentration:

1.0 mg/ml (determined by Bradford assay)

Background:

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 H₂O₂ 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.

Uniprot ID:

[P30041](#)

NCBI:

[NP_004896](#)

GenelD:

[9588](#)

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 20% Glycerol

Description:

Recombinant human peroxiredoxin 6 protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography.

AA Sequence:

MGSSHHHHHH SSGLVPRGSH MPGGLLLGDV APNFEANTTV GRIRFHDFLG DSWGILFSHP
RDFTPVCTTE LGRAAKLAPE FAKRNVKLI A LSIDSVEDHL AWSKDINAYN CEEPTEKLFP
PIIDDRNREL AILLGMLDPA EKDEKMPVT ARVVFVFGPD KKLKLSILYP ATTGRNFDEI
LRVVISLQLT AEKRVATPVD WKDGDSVMVL PTIPEEEAKK LFPKGVFTKE LPSGKKYLRY TPQP

Specific Activity: Approximately 95-120 pmole/min/μg.

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 1μg of enzyme can reduce at 25°C for 1 minute.

Molecular weight: 27.1 kDa (244 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:

Davison EJ., et al. (2009). Proteomics. 9(18):4284-97.

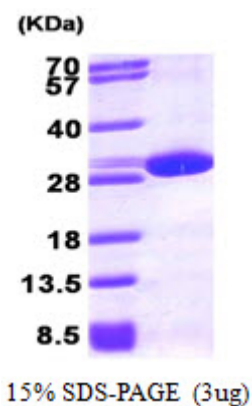
Wu J., et al. (2009). Chem Res Toxicol. 22(4):668-75.

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 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 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:



Recombinant human Peroxiredoxin 6,
1-224 aa, His-tagged: 15% SDS-PAGE (3
μg)

