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# AR09202PU-L Human Peroxiredoxin-3 / PRDX3 (63-256) - Purified

**Alternate names:** AOP-1, AOP1, Antioxidant protein 1, HBC189, PRDX-3, PRX-III, Protein MER5 homolog, Prx-3, Prx3, Thioredoxin-dependent peroxide reductase mitochondrial

**Quantity:** 0.5 mg

**Concentration:** 1 mg/ml (determined by Bradford assay)

**Background:** Peroxiredoxin 3, also known as PRDX3, is a member of the peroxiredoxin family of antioxidant enzymes, which reduce hydrogen peroxide and alkyl hydroperoxides. Peroxiredoxin 3 is specifically localized in mitochondria and believed to play important roles in the regulation of cellular redox status by serving as a primary line of defense against H2O2 produced during respiration.

**Uniprot ID:** P30048

**NCBI:** NP_006784

**GeneID:** 10935

**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 Peroxiredoxin 3 protein was expressed in E.coli and purified by using conventional chromatography techniques.
**AA Sequence:**
MPAVTQHAPY FKGTAVVNGE FKDLSLDDFK GKYLVLFFYP LDFTFVCPTE IVAFSDKANE FHDVNCEVVA VSVDSHFSHL AWINTPRKNG GLGHMNIALL SDLTKQISRD YGVLLEGSGL ALRGLFIIDP NGVIKHLSVN DLPVGRSVEE TLRLVKAFQY VETHGEVCPA NWTPDSPTIK PSPAASKEYF QKVNQ
**Specific Activity:** Approximately 82-83 pmole/min/µg.
Enzymatic activity was confirmed by measuring the remaining peroxide after incubation of PRDX3 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:** 21.5 kDa (195 aa)

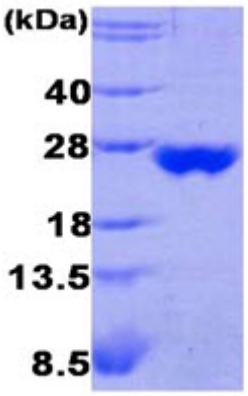
**Storage:** Store undiluted at 2-8°C for up to two weeks or (in aliquots) at -20°C or -70°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

**General Readings:**
Cox AG., et al. (2009). Biochemistry. 48(27):6495-501.
Rhee SG., et al. (2005). Free Radic Biol Med. 38(12):1543-52.

**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 PRDX3 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)

Peroxiredoxin 3 , 63-256 aa human, recombinant: 15% SDS-PAGE (3 µg)