

Peroxiredoxin 5, 53-214 aa, Human, Recombinant, *E.coli*

Cat. No. IBATGP0339

Synonyms: ACR1, AOEB116, B116, PLP, PMP20, PRDX6, PRXV, SBBI10 **NCBI Accession No.:** NP_036226

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. Recombinant Peroxiredoxin 5 protein was expressed in *E.coli* and purified by using conventional chromatography techniques.

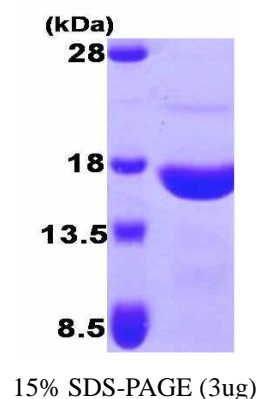
Form: Liquid. In 20 mM HEPES buffer (pH 7.4).

Molecular Weight: 17.0 kDa (162aa), confirmed by MALDI-TOF

Purity: > 95% by SDS - PAGE

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

Biological activity: Specific activity: approximately 117-136 pmole/min/μg.
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 25C 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.

Sequences of amino acids:

MAPIKVGDAI PAVEVFEGEP GNKVNLAELF KGKKGVLFGV PGAFTPGCSK THLPGFVEQA EALKAKGVQV VACLVSND AF VTGEWGRAHK
AEGKVRLAD PTGAFGKETD LLLDDSLVSI FGNRRLKRFS MVVQDGIKVA LNVEPDGTGL TCSLAPNIIS QL

General references:

Yamashita H., *et al.* (1999) *J Biol Chem.* 274(42):29897-904.
Declercq JP., *et al.* (2001) *J Mol Biol.* 311(4):751-9

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.

For research use only. This product is not intended or approved for human, diagnostics or veterinary use.



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