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## Product Data Sheet

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Product Name: PRDX5 Human  
 Cat. No.: GP22157  
 Batch No.: 1

### Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Peroxiredoxin-5 mitochondrial; Prx-V; Peroxisomal antioxidant enzyme; Thioredoxin reductase; Thioredoxin peroxidase PMP20; Antioxidant enzyme B166; TPx type VI; Liver tissue 2D-page spot 71B; Alu corepressor 1; PLP; ACR1; B166; PRXV; PMP20; PRDX6; SBBI10; AOEB166; MGC117264; MGC142283; MGC142285; PRDX5.		
Amino Acid Sequence	MAPIKVGDAI PAVEVFEGEP GNKVNLAELF KGKKGVLFGV PGAFTPGCSK THLPGFVEQA EALKAKGVQV VACLSVNDAF VTGEWGRAHK AEGKVRLLAD PTGAFGKETD LLLDDSLVSI FGNRRLLKRFS MVVQDGIVKA LNVEPDGTGL TCSLAPNIIS QL.		
Formulation	The PRDX5 solution contains 20mM HEPES buffer (pH 7.4).		

### Introduction

PRDX5 belongs to the peroxiredoxin family of antioxidant enzymes, which reduce hydrogen peroxide and alkyl hydroperoxides with reducing equivalents supplied through the thioredoxin system. PRDX5 has an antioxidant protective function in different tissues under normal conditions and during inflammatory processes. Peroxiredoxin-5 interacts with peroxisome receptor 1 and is involved in intracellular redox signaling. PRDX5 is involved in intracellular redox signaling. Peroxiredoxin-5 is a significant antioxidant protein of lung epithelial cells for its expression in the human lung increases during inflammation. PRDX5 expression is upregulated in osteoarthritis. PRDX5 may be significant in mitochondrial genome stability. Peroxiredoxin-5 has a protective role in human tendon cells against oxidative stress by reducing apoptosis and upholding collagen synthesis.

### Biological Activity

The specific activity was found to be approximately 117-136 pmole/min/?a.The

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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.

### Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

### Background

PRDX5 Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 162 amino acids (53-214 a.a.) and having a molecular mass of 17 kDa. The PRDX5 is purified by proprietary chromatographic techniques.

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