Product Data Sheet

Product Name:	PRDX6 Human
Cat. No.:	GP22158
Batch No.:	1

Product Data

Purity	>98%	Source	Escherichia Coli.
Phycical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Peroxiredoxin-6; Antioxidant protein 2; 1-Cys peroxiredoxin; Acidic calcium-independent phospholipase A2; Non-selenium glutathione peroxidase; 24 kDa protein; Liver 2D page spot 40; Red blood cells page spot 12; 1-Cys PRX; aiPLA2; NSGPx; PRDX6; AOP2; KIAA0106; PRX; p29; 1-Cys; MGC46173.		
Amino Acid Sequence	MGSSHHHHHH SSGLVPRGSH MPGGLLLGDV APNFEANTTV GRIRFHDFLG DSWGILFSHP RDFTPVCTTE LGRAAKLAPE FAKRNVKLIA LSIDSVEDHL AWSKDINAYN CEEPTEKLPF PIIDDRNREL AILLGMLDPA EKDEKGMPVT ARVVFVFGPD KKLKLSILYP ATTGRNFDEI LRVVISLQLT AEKRVATPVD WKDGDSVMVL PTIPEEEAKK LFPKGVFTKE LPSGKKYLRY TPQP.		
Formulation	The Peroxiredoxin-6 solution contains 20mM Tris-HCl buffer (pH8.0) and 20% Glycerol.		

Introduction

Peroxiredoxin 6 (PRDX6) belongs to the thiol-specific antioxidant protein family. PRDX6 is a bifunctional enzyme with 2 distinct active sites. PRDX6 is involved in redox regulation of the cell and can reduce Hydrogen peroxide and short chain organic, fatty acid, and phospholipid hydroperoxides. PRDX6 may have a role in the regulation of phospholipid turnover as well as in protection against oxidative injury. Furthermore, PRDX6 eases the oxidative stress and TGF-beta-induced abnormalities of human trabecular meshwork cells. In addition, PRDX6 is necessary for blood vessel integrity in injured skin. At acidic pH, PRDX6 binds to reduced phospholipids, however at cytosolic pH PRDX6 binds only to phospholipids that are oxidized which is compatible with the role for PRDX6 in the repair of peroxidized cell membranes. Hydrogen peroxide-mediated hyperoxidation of PRDX6 induces cell cycle arrest at the G2/M transition via up-

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regulation of iPLA2 activity. Overexpression of PRDX6 is linked to oligodendroglioma.

Biological Activity

The specific activity was found to be approximately 95-120 pmole/min/?g.The 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 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).Avoid multiple freeze-thaw cycles.

Background

Peroxiredoxin- 6 Human Recombinant fused with a 20 amino acid His tag at N-terminus produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 244 amino acids (1-224 a.a.) and having a molecular mass of 27.1kDa.The Peroxiredoxin-6 is purified by proprietary chromatographic techniques.

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