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**Product Data Sheet**


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Product Name: GPX1 Human  
 Cat. No.: GP21726  
 Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Glutathione peroxidase 1; GPx-1; GSHPx-1; Cellular glutathione peroxidase; GPX1; GPXD; GSHPX1.		
Amino Acid Sequence	MGSSHHHHHH SSGLVPRGSH MCAARLAAAA AAAQSVYAFS ARPLAGGEPV SLGSLRGKVL LIENVASLCG TTVRDYTQMN ELQRRLGPRG LVVLGFPCNQ FGHQENAKNE EILNSLKYVR PGGGFEPNFM LFEKCEVNGA GAHPLFAFLR EALPAPSDDA TALMTDPKLI TWSPVCRNDV AWNFEKFLVG PDGVPLRRYS RRFQTIDIEP DIEALLSQGP SCA.		
Formulation	The GPX1 solution (0.5mg/ml) contains 20mM Tris-HCl buffer (pH 8.0), 2mM DTT, 30% glycerol and 100mM NaCl.		

**Introduction**

Glutathione peroxidase 1 (GPX1) is a member of the glutathione peroxidase family, consisting of 8 identified glutathione peroxidases (Gpx1-8) in humans. Glutathione peroxidase serves in the detoxification of hydrogen peroxide, and is one of the most vital antioxidant enzymes in humans. The GPX1 is a component of the enzymatic antioxidant defense, preventing oxidative damage to DNA, proteins and lipids by detoxifying hydrogen and lipid peroxides which may contribute to prostate cancer development. GPX1 is one of only a small number of proteins known in higher vertebrates to contain selenocysteine, which occurs at the active site of glutathione peroxidase and is coded by the nonsense (stop) codon TGA. Furthermore, the GPX1 protein is characterized in a polyalanine sequence polymorphism in the N-terminal region, which includes 3 alleles with 5, 6 or 7 alanine (ALA) repeats in this sequence. The allele with 5 ALA repeats is significantly linked to breast cancer risk.

**Stability**

Store at 4°C if entire vial will be used within 2-4 weeks. Store frozen at -20°C for longer

**Caution: Product has not been fully validated for medical applications. For research use only.**

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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

GPX1 Human Recombinant produced in E.coli is a single, non-glycosylated polypeptide chain containing 223 amino acids (1-203) and having a molecular mass of 24.2kDa. GPX1 is fused to a 20 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques.

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