

# Recombinant Human Glutathione Peroxidase 1, His-tagged

**Cat. No.** GPX1-1273H    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Recombinant human GPX1(U49C) protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography techniques.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Source</b>           | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Description</b>      | GPX1 belongs to the glutathione peroxidase family, consisting of eight known glutathione peroxidases (Gpx1-8) in humans. GPX1 functions in the detoxification of hydrogen peroxide, and is one of the most important antioxidant enzymes in humans. The GPX1 is part of the enzymatic antioxidant defence, preventing oxidative damage to DNA, proteins and lipids by detoxifying hydrogen and lipid peroxides that may contribute to prostate cancer development. This protein is one of only a few 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. |
| <b>Form</b>             | Liquid. In 20mM Tris-HCl buffer (pH 8.0) containing 2mM DTT, 30% glycerol, 100mM NaCl                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Molecular Weight</b> | 24.2kDa (223aa), confirmed by MALDI-TOF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Purity</b>           | > 90% by SDS - PAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Concentration</b>    | 0.5mg/ml (determined by Bradford assay)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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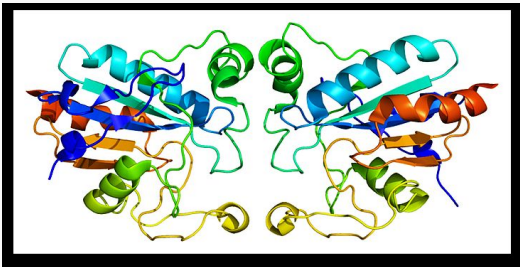
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|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Sequences of amino acids</b> | MGSSHHHHHH SSGLVPRGSH MCAARLAAAA AAAQSVYAFS ARPLAGGEPV<br>SLGSLRGKVL LIENVASLCG TTVRDYTQMN ELQRRLGPRG LVLGFFPCNQ<br>FGHQENAKNE EILNSLKYVR PGGGFEPNFM LFEKCEVNGA GAHPLFAFLR<br>EALPAPSDDA TALMTDPKLI TWSPVCRNDV AWNFEKFLVG PDGVPLRRYS<br>RRFQTIDIEP DIEALLSQGP SCA                                                |
| <b>Storage</b>                  | Can be stored at +4C short term (1-2 weeks). For long term storage, aliquot and store at -20C or -70C. Avoid repeated freezing and thawing cycles.                                                                                                                                                               |
| <b>Pathways</b>                 | Amyotrophic lateral sclerosis (ALS); Arachidonic acid metabolism; Direct p53 effectors; Folate Metabolism; Glutathione metabolism; Huntington's disease; Metabolism of nucleotides; Oxidative Stress; Purine catabolism; Selenium Metabolism and Selenoproteins; Selenium Pathway; glutathione redox reactions I |
| <b>GENE INFORMATION</b>         |                                                                                                                                                                                                                                                                                                                  |
| <b>Gene Name</b>                | GPX1 glutathione peroxidase 1 [ Homo sapiens ]                                                                                                                                                                                                                                                                   |
| <b>Official Symbol</b>          | GPX1                                                                                                                                                                                                                                                                                                             |
| <b>Synonyms</b>                 | GPX1; glutathione peroxidase 1; GSHPX1; MGC14399; MGC88245; GPX1; Cellular glutathione peroxidase; MGC14399; GPx-1; MGC88245; GSHPx-1; OTTHUMP00000210766; OTTHUMP00000210765; EC 1.11.1.9; EC 1.11.1                                                                                                            |
| <b>Gene ID</b>                  | 2876                                                                                                                                                                                                                                                                                                             |
| <b>mRNA Refseq</b>              | NM_000581                                                                                                                                                                                                                                                                                                        |
| <b>Protein Refseq</b>           | NP_000572                                                                                                                                                                                                                                                                                                        |
| <b>MIM</b>                      | 138320                                                                                                                                                                                                                                                                                                           |

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|-----------------------------|----------------------------------------------------------------------------------------------------------------|
| UniProt ID                  | P07203                                                                                                         |
| Chromosome Location         | 3p21.3                                                                                                         |
| Function                    | SH3 domain binding; endopeptidase inhibitor activity; glutathione peroxidase activity; oxidoreductase activity |
| PDB rendering based on2f8a. |                              |