# Recombinant Human GPX4 protein, His & GST-tagged

**Cat. No.** GPX4-8203H **Lot. No.** (See product label)

## SPECIFICATION

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| **Product Overview** | Recombinant Human GPX4 aa. (Gly74~Phe197) fused with N-terminal His & GST tag was produced in E. coli cells. |
| **Species** | Human |
| **Source** | E.coli |
| **ProteinLength** | Gly74~Phe197 |
| **Description** | The protein encoded by this gene belongs to the glutathione peroxidase family, members of which catalyze the reduction of hydrogen peroxide, organic hydroperoxides and lipid hydroperoxides, and thereby protect cells against oxidative damage. Several isozymes of this gene family exist in vertebrates, which vary in cellular location and substrate specificity. This isozyme has a high preference for lipid hydroperoxides and protects cells against membrane lipid peroxidation and cell death. It is also required for normal sperm development; thus, it has been identified as a 'moonlighting' protein because of its ability to serve dual functions as a peroxidase, as well as a structural protein in mature spermatozoa. Mutations in this gene are associated with Sedaghatian type of spondylometaphyseal dysplasia (SMDS). This isozyme is also a selenoprotein, containing the rare amino acid selenocysteine (Sec) at its active site. Sec is encoded by the UGA codon, which normally signals translation termination. The 3' UTRs of selenoprotein mRNAs contain a conserved stem-loop structure, designated the Sec insertion sequence (SECIS) element, that is necessary for the recognition of UGA as a Sec codon, rather |

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| | than as a stop signal. Alternatively spliced transcript variants have been found for this gene. |
| **Form** | Freeze-dried powder |
| **Molecular Mass** | 45kDa as determined by SDS-PAGE reducing conditions. |
| **Endotoxin** | <1.0EU per 1ug (determined by the LAL method) |
| **Purity** | >92% |
| **Characteristic** | The isoelectric point is 6.9. |
| **Applications** | Positive Control; Immunogen; SDS-PAGE; WB. |
| **Stability** | The thermal stability is described by the loss rate of the target protein. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. (Referring from China Biological Products Standard, which was calculated by the Arrhenius equation.) The loss of this protein is less than 5% within the expiration date under appropriate storage condition. |
| **Storage** | Avoid repeated freeze/thaw cycles. Store at 2-8°C for one month. Aliquot and store at -80°C for 12 months. |
| **Concentration** | 200μg/mL |
| **Storage Buffer** | 10mM PBS, pH7.4, containing 1mM DTT, 5% trehalose, 0.01% sarcosyl and Proclin300. |
| **Reconstitution** | Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not |

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## GENE INFORMATION

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| **Gene Name** | GPX4 glutathione peroxidase 4 [ Homo sapiens (human) ] |
| **Official Symbol** | GPX4 |
| **Synonyms** | GPX4; glutathione peroxidase 4; MCSP; SMDS; GPx-4; PHGPx; snGPx; GSHPx-4; snPHGPx; phospholipid hydroperoxide glutathione peroxidase, mitochondrial; phospholipid hydroperoxide glutathione peroxidase; phospholipid hydroperoxidase; sperm nucleus glutathione peroxidase |
| **Gene ID** | 2879 |
| **mRNA Refseq** | NM_001039847.2 |
| **Protein Refseq** | NP_001034936.1 |
| **UniProt ID** | P36969 |

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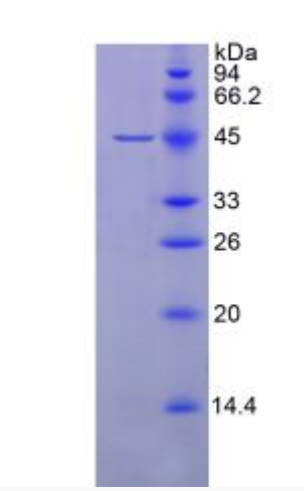
| **SDS-PAGE** |  |



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