

Recombinant Mouse Gpx3 Protein, 202 residues

Cat. No. Gpx3-13M Lot. No. (See product label)

SPECIFICATION

Product Overview Recombinant Mouse Glutathione Peroxidase 3 (Non-tagged, signal peptide removed, 202 residues)

Species Mouse

ProteinLength 202 residues

Description

The protein encoded by this gene belongs to the glutathione peroxidase family, members of which catalyze the reduction of organic hydroperoxides and hydrogen peroxide (H₂O₂) by glutathione, 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 is secreted and is highly expressed in mouse kidney, which appears to be the major source of the enzyme in plasma. It has a role in mouse organogenesis, and dysregulation of this isozyme has been associated with obesity-related metabolic complications, platelet-dependent thrombosis, colitis-associated carcinoma, and thermosensitive phenotype. 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 than as a stop signal. Alternatively spliced transcript variants have been found for this gene.

Purity ≥ 95% as judged by gel analysis

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| | |
|------------------------|---|
| Unit definition | 1 U of enzyme consumes 1 μ mol GSH per min in a Glutathione Reductase-coupled GPx assay containing 1 mM GSH, 0.5 mM Cumene Hydroperoxide, 15 nM Human Glutathione Reductase and 0.5 mM NADPH in TE buffer (50 mM Tris-HCl, 2 mM EDTA, pH 7.5) |
| Applications | Glutathione Reductase-coupled GPx assay; Inhibitor screening; etc. |
| Notes | Centrifuge the tube briefly before opening the lid. |
| Concentration | 1 mg/mL |
| Storage Buffer | 25 mM Tris-HCl (pH 8.0) with 250 mM KCl, 2 mM 2-Mercaptoethanol and 10% glycerol. |
| Shipping | Shipped in cold pack by courier service. Store at -20 centigrade upon delivery. |
| References | 1. Cheng Q, Arnér ES. (2017) Selenocysteine Insertion at a Predefined UAG Codon in a Release Factor 1 (RF1)-depleted Escherichia coli Host Strain Bypasses Species Barriers in Recombinant Selenoprotein Translation. J Biol Chem. 292:5476-5487. |

GENE INFORMATION

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|------------------------|---|
| Gene Name | Gpx3 glutathione peroxidase 3 [<i>Mus musculus</i>] |
| Official Symbol | Gpx3 |
| Synonyms | GPX3; glutathione peroxidase 3; GPx-3; GPx-P; plasma GPx; extracellular GPx; plasma glutathione peroxidase; GPx; EGPx; GSHPx-3; GSHPx-P; AA960521 |
| Gene ID | 14778 |

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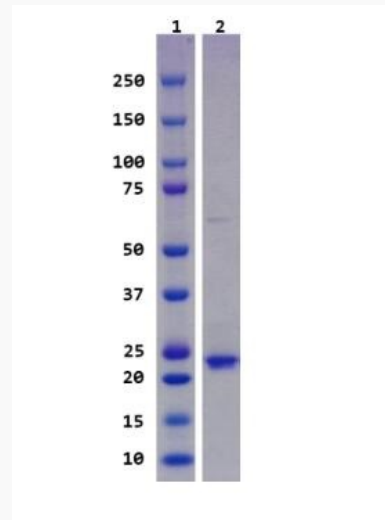
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mRNA Refseq [NM_008161](#)

Protein Refseq [NP_032187](#)

**Coomassie stained
SDS-PAGE analysis
of 15 µg MGPX3.**



Lane 1: Molecular weight marker (Bio-Rad Dual Color)

Lane 2: MGPX3

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