

Recombinant Mouse Gpx1 Protein, His&GST-tagged

Cat. No. Gpx1-1584M Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Mouse Gpx1 Protein (Gly48-Ser201) with N-His&GST tag was expressed in E. coli.
Species	Mouse
Source	E.coli
ProteinLength	Gly48-Ser201
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. Knockout mice lacking this gene are highly sensitive to oxidants, and develop mature cataracts due to damage to the eye lens nucleus. Other studies indicate that H₂O₂ is also essential for growth-factor mediated signal transduction, mitochondrial function, and maintenance of thiol redox-balance; therefore, by limiting H₂O₂ accumulation, glutathione peroxidases are also involved in modulating these processes. Several isozymes of this gene family exist in vertebrates, which vary in cellular location and substrate specificity. This isozyme is the most abundant, is ubiquitously expressed and localized in the cytoplasm, and whose preferred substrate is hydrogen peroxide. It 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

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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.

Form	Freeze-dried powder
Molecular Mass	Predicted Molecular Mass: 47.5 kDa Accurate Molecular Mass: 48 kDa
Purity	> 90%
Applications	Positive Control; Immunogen; SDS-PAGE; WB.
Stability	The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37 centigrade for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.
Storage	Avoid repeated freeze/thaw cycles. Store at 2-8 centigrade for one month. Aliquot and store at -80 centigrade for 12 months.
Storage Buffer	20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose and Proclin300.
Reconstitution	Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

GENE INFORMATION

Gene Name	Gpx1 glutathione peroxidase 1 [Mus musculus (house mouse)]
Official Symbol	Gpx1

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Synonyms	GPX1; glutathione peroxidase 1; cellular glutathione peroxidase; Gpx; CGPx; GPx-1; GSHPx-1; AI195024; AL033363;
Gene ID	14775
mRNA Refseq	NM_008160
Protein Refseq	NP_032186
UniProt ID	P11352

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