

## Recombinant Human GPX4 Protein, N-His-tagged

Cat. No. GPX4-1894H Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Recombinant Human GPX4 Protein with a N-His-tag was expressed in E. coli.

**Species** Human

**Source** E.coli

#### 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 than as a stop signal. Transcript variants resulting from alternative splicing or use of alternate promoters have been described to encode isoforms with different subcellular localization.

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<b>Molecular Mass</b>	~ 21.3 kDa, reducing conditions
<b>AA Sequence</b>	MHHHHHHENLYFQSMCASRDDWRCARSMHEFSAKDIDGHMVNLDKYRGFVCIVTN VASQCGKTEVNYTQLVDLHARYAECGLRILAFPCNQFGKQEPGSNEEIKEFAAGYN VKFDMFSKICVNGDDAHPLWKWMKIQPKGKILGNAIKWNFTKFLIDKNGCVVKRY GPMEEPLVIEKDLPHYF
<b>Endotoxin</b>	< 1 EU/μg
<b>Purity</b>	>90%, by SDS-PAGE
<b>Storage</b>	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
<b>Concentration</b>	0.125 mg/mL
<b>Storage Buffer</b>	Supplied as a 0.2 μm filtered solution in 30 mM Tris, 300mM NaCl, pH 9.0

## GENE INFORMATION

<b>Gene Name</b>	GPX4 glutathione peroxidase 4 [ Homo sapiens (human) ]
<b>Official Symbol</b>	GPX4
<b>Synonyms</b>	GPX4; glutathione peroxidase 4; MCSP; SMDS; GPx-4; PHGPx; snGPx; GSHPx-4; snPHGPx; phospholipid hydroperoxide glutathione peroxidase; epididymis secretory sperm binding protein; phospholipid hydroperoxidase; phospholipid hydroperoxide glutathione peroxidase, mitochondrial; selenoprotein GPX4; sperm nucleus glutathione peroxidase; EC 1.11.1.12
<b>Gene ID</b>	2879

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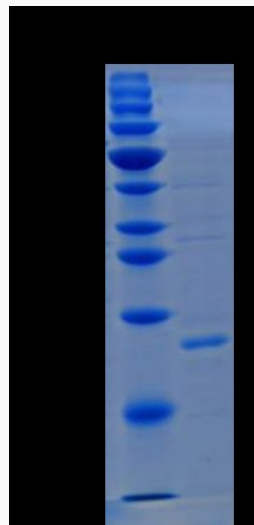
mRNA Refseq	NM_002085
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Protein Refseq	NP_002076
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MIM	138322
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UniProt ID	P36969
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**SDS-PAGE**



12% reducing SDS-PAGE analysis of purified hGPX4-his (~ 2 µg protein loaded)

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