Recombinant Human GPX4 Protein, His-tagged

Cat. No. GPX4-22H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human GPX4 Protein, fused to 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.

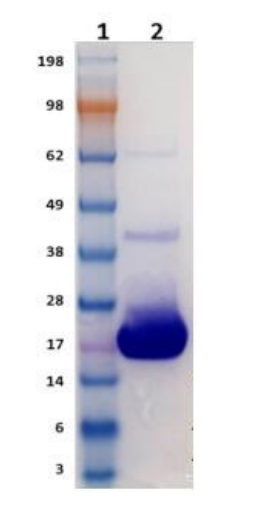
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Form	Supplied as a 0.2 μm filtered solution in 1M PBS (58mM Na2HPO4,17mM NaH2PO4, 68mM NaCl, pH8.0) added with 300mM Imidazole and 0.7% Sarcosyl, 15% glycerol.
Molecular Mass	~37.3 KDa
AA Sequence	MFFTKALEHRVAAVCLTLDPEVVCRVMEYCSRELILSKPILNAVAETFVCQTEKFSPR QISALMEPFGKLNYLPPNASALFRKLENVLFTHFNYFPPKSLLKLLHSCSLNECHPVN FLAKIFKPLFLQRLQGKESHLDTLSRAQLTQLFLASVLECPFYKGPKLLPKYQVKSFL TPCCSLETPVDSQLYRYVKIGLTNLLGARLYFAPKVLTPYCYTIDVEIKLDEEGFVLPS TANEDIHKRIALCIDGPKRFCSNSKHLLGKEAIKQRHLQLLGYQVVQIPYHEIGMLKSR RELVEYLQRKLFSQNTVHWLQELEHHHHHH
Purity	>90%
Storage	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.
Concentration	0.4 mg/mL

GENE INFORMATION

Gene Name	GPX4 glutathione peroxidase 4 [Homo sapiens (human)]
Official Symbol	GPX4
Synonyms	MCSP; SMDS; GPx-4; PHGPx; snGPx; GSHPx-4; snPHGPx
Gene ID	2879
mRNA Refseq	NM_002085

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Protein Refseq	NP_002076
MIM	138322
UniProt ID	P36969
SDS-PAGE	 12% reducing SDS-PAGE analysis of purified fastkd3 (approximately 2 mg protein loaded).

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