

Human GPX1 Knockdown Cell Lysate

Cat. No. GPX1-348HKCL **Lot. No.** (See product label)

SPECIFICATION

Product Overview	WB-validated GPX1 Knockdown HeLa Cell Lysate
Species	Human
Source	HeLa
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. 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 for the recognition of UGA as a Sec codon, rather than as a stop signal. This gene contains an in-frame GCG trinucleotide repeat in the coding region, and three alleles with 4, 5 or 6 repeats have been found in the human population. The allele with 4 GCG repeats has been significantly associated with breast cancer risk in premenopausal women.

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Alternatively spliced transcript variants have been found for this gene. Pseudogenes of this locus have been identified on chromosomes X and 21.

Form	Cell-Tissue Lysis buffer
Molecular Mass	22 kDa
Notes	Instruction of use: This knockdown cell lysate should be paired with wild-type HeLa cell lysate for use. For Western blotting, we recommend running wild-type and knockdown lysates on the same gel, and loading each well with equal volume and equal amount of total proteins.
Storage	Store at -20 centigrade for two years.
Concentration	Lot-specific
Shipping	Blue Ice
Components	1 vial of 100 µg WT HeLa cell lysate 1 vial of 100 µg GPX1 KD HeLa cell lysate
Protein Families	Druggable Genome
Protein Pathways	Amyotrophic lateral sclerosis (ALS), Arachidonic acid metabolism, Glutathione metabolism, Huntington's disease
Lysate QC	RT-qPCR; Western Blotting (WB)

GENE INFORMATION

Gene Name [GPX1 glutathione peroxidase 1 \[Homo sapiens \(human\) \]](#)

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Official Symbol	GPX1
Synonyms	GPX1; glutathione peroxidase 1; GPx-1; GSHPx-1; cellular glutathione peroxidase; GPXD; GSHPX1; MGC14399; MGC88245;
Gene ID	2876
mRNA Refseq	NM_000581
Protein Refseq	NP_000572
MIM	138320
UniProt ID	P07203

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