

Product name:	KD-Validated GPX1 Recombinant Rabbit Monoclonal Antibody
Cat number:	MABNK01070
Conjugate:	Unconjugated
Size:	100 ug
Host:	Rabbit
Isotype:	Rabbit IgG
Immunogen:	A synthesized peptide derived from human GPX1.
Reactivity:	Human
Applications:	WB 1:1,000-1:5,000; FC 1:200-1:2,000; ICC 1:100-1:1,000
Molecular Weight:	Calculated MW: 22.1kDa
Purification:	Affinity purification
Form:	Liquid
Buffer:	Supplied in PBS (pH 7.4) containing 50% glycerol, and 0.02% sodium azide.
Storage:	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
Background:	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. Alternatively spliced transcript variants have been found for this gene. Pseudogenes of this locus have been identified on chromosomes X and 21.

