

Product datasheet for **AR50098PU-N**

Glutathione peroxidase 1 / GPX1 (1-203, His-tag) Human Protein

Product data:

Product Type:	Recombinant Proteins
Description:	Glutathione peroxidase 1 / GPX1 (1-203, His-tag) human recombinant protein, 0.5 mg
Species:	Human
Expression Host:	E. coli
Expression cDNA Clone or AA Sequence:	MGSSHHHHHH SSGLVPRGSH MCAARLAAAA AAAQSVYAFS ARPLAGGEPV SLGSLRGKVL LIENVASLCG TTVRDYTQMN ELQRRLGPRG LVVLGFPCNQ FGHQENAKNE EILNSLKYVR PGGGFEPNFM LFEKCEVNGA GAHPLFAFLR EALPAPSDDA TALMTDPKLI TWSPVCRNDV AWNFEKFLVG PDGVPLRRYS RRFQTIDIEP DIEALLSQGP SCA
Tag:	His-tag
Predicted MW:	24.2 kDa
Concentration:	lot specific
Purity:	>90% by SDS - PAGE
Buffer:	Presentation State: Purified State: Liquid purified protein Buffer System: 20 mM Tris-HCl buffer (pH 8.0) containing 2 mM DTT, 30% glycerol, 100 mM NaCl
Preparation:	Liquid purified protein
Protein Description:	Recombinant human GPX1(U49C) protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography techniques.
Storage:	Store undiluted at 2-8°C for one week or (in aliquots) at -20°C to -80°C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
RefSeq:	NP_000572
Locus ID:	2876
UniProt ID:	P07203
Cytogenetics:	3p21.31
Synonyms:	GSHPx-1, Cellular glutathione peroxidase



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Summary:

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. [provided by RefSeq, Aug 2017]

Protein Families:

Druggable Genome

Protein Pathways:

Amyotrophic lateral sclerosis (ALS), Arachidonic acid metabolism, Glutathione metabolism, Huntington's disease

Product images: