

## Product datasheet for **SC119804**

### Glutathione Peroxidase 1 (GPX1) (NM\_000581) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Glutathione Peroxidase 1 (GPX1) (NM_000581) Human Untagged Clone
Tag:	Tag Free
Symbol:	GPX1
Synonyms:	GPXD; GSHPX1
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Cell Selection:	None
Fully Sequenced ORF:	>NCBI ORF sequence for NM_000581, the custom clone sequence may differ by one or more nucleotides

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ATGTGTGCTGCTCGGCTAGCGGCGGGCGGGCGGGCGGCCAGTCGGTGTATGCCTTCTCGGCGGCCCGC  
TGGCCGGCGGGGAGCCTGTGAGCCTGGGCTCCCTGCGGGGCAAGGTAATACTTATCGAGAATGTGGCGTC  
CCTCTGAGGCACCACGGTCCGGGACTACACCCAGATGAACGAGCTGCAGCGGCGCCTCGGACCCCGGGC  
CTGGTGGTCTCGGCTTCCCGTGAACCAAGTTGGGCATCAGGAGAACGCCAAGAACGAAGAGATTCTGA  
ATCCCTCAAGTACGTCCGGCCTGGTGGTGGGTTGAGCCCACTTCATGCTCTTCGAGAAGTGGGAGGT  
GAACGGTGCGGGGGCGCACCCCTCTTTCGCCTTCTGCGGGAGGCCCTGCCAGCTCCCAGCGACGACGCC  
ACCGCGCTTATGACCGACCCCAAGCTCATCACCTGGTCTCCGGTGTGTGCAACGATGTTGCCTGGAAC  
TTGAGAAGTTCTGGTGGGCCCTGACGGTGTGCCCTACGCAGGTACAGCCGCGCCTTCCAGACCATTGA  
CATCGAGCCTGACATCGAAGCCCTGCTGTCTCAAGGGCCAGCTGTGCCTAG
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<b>5' Read Nucleotide Sequence:</b>	>OriGene 5' read for NM_000581 unedited TTTTGTAAACGACTCACTATAGGGCGGCCGGAATTCGGCACGAGGGCCTGCTGGCCTC CCCTTATAGTGCTTGTTCGGGGCGCTCCGCTGGCTTCTTGGACAATTGCGCCATGTGTGC TGCTCGGCTAGCGGGCGGGCGGCCAGTCGGTGTATGCCTTCTCGGCGCGCCCGCT GGCCGGCGGGGAGCCTGTGAGCCTGGGCTCCCTGCGGGCAAGGTAATACTTATCGAGAA TGTGGCGTCCCTCTGAGGCACCACGGTCCGGACTACACCCAGATGAACGAGCTGCAGCG GCGCCTCGGACCCCGGGCCTGGTGGTCTCGGCTTCCCGTGCAACCAGTTTGGGCATCA GGAGAACGCCAAGAACAAGAGATTCTGAATCCCTCAAGTACGTCCGGCCTGGTGGTGG GTTCCAGCCAACTTCATGCTCTTCGAGAAGTGCAGGTGAACGGTGCNGGGCGCACCC TCTCTTCGCTTCTGCGGGAGGCCCTGCCAGCTCCAGCGACGACGCCACCGCCTTAT GACCGACCCCAAGCTCATCACCTGGTCTCCGGTGTGTCGCAACGATGTTGCCTGGAACCT TGAGAAGTTCTGGTGGGCCCTGACGGTGTGCCCTACGCAGGTACAGCCGCGCTTCCA GACCATTGACATCGAGCCTGACATCGAAGCCCTGCTGTCTCAAGGGCTCAGCTGTGCCTA GGGCGCCCTNCCTACCCNGCTGCTNTGCAGNTGCAGTGTCTCGGNNGGTTTT CATCTATGAGGGNTGTTNCCTAACCTACGAGGGNNAGACACCCTGATCTACAGAAAA TCCACCTCGAGATGGNTGCTGGTCCCTGTGATCCAGTCTCTGCCAGACCAGGGCAGTTC NCCCACTATAAGGCGCCGGTTGTCAGCAGAAAAA
<b>3' Read Nucleotide Sequence:</b>	>OriGene 3' read for NM_000581 unedited TTTTTTTTTTTTTTTTTCGGGGGCACCCCGGCACTTTATTAGGGGGGAAACTCCCTTG GTCTGGCAAAACTGGGATCAACAGGACCAGCCCCATTTTCGGAGGGGTATTTTCTGTA AAAACAGGGTTCCTCCCTCGTAGGTTTAAAGGAAACACCCTCATAAATGAAAACCCCC CGAAACAGCAGCACTGCAACTGCCAAGCAGCCGGGTAGGAGGGGCCCTAGGCACAGC TGACCCCTTGAACAGCAGGGCTTCAATGTCAGGCTCGATGCAATGGTCTGGAAGCGGC GGCTGTACCTGCGTAGGGGCACACCGTACAGGGCCACCAGAACTTTTAAAGTCCAGG CAACATCGTTGCGACACCCGAAACCAGGTGATGAGCTTGGGGTTCGGTATAAGCG
<b>Restriction Sites:</b>	NotI-NotI
<b>ACCN:</b>	NM_000581
<b>Insert Size:</b>	1000 bp
<b>OTI Disclaimer:</b>	Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.
	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. <a href="#">More info</a>
<b>RefSeq:</b>	<a href="#">NM_000581.2</a> , <a href="#">NP_000572.2</a>
<b>RefSeq Size:</b>	921 bp
<b>RefSeq ORF:</b>	612 bp
<b>Locus ID:</b>	2876

UniProt ID:	<a href="#">P07203</a> , <a href="#">Q7L4Q3</a>
Domains:	GSHPx
Protein Families:	Druggable Genome
Protein Pathways:	Amyotrophic lateral sclerosis (ALS), Arachidonic acid metabolism, Glutathione metabolism, Huntington's disease
Gene Summary:	<p>The protein encoded by this gene belongs to the glutathione peroxidase family, members of which catalyze the reduction of organic hydroperoxides and hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) by glutathione, and thereby protect cells against oxidative damage. Other studies indicate that H<sub>2</sub>O<sub>2</sub> is also essential for growth-factor mediated signal transduction, mitochondrial function, and maintenance of thiol redox-balance; therefore, by limiting H<sub>2</sub>O<sub>2</sub> 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]</p> <p>Transcript Variant: This variant (1) encodes the longest isoform (1).</p>