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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:	Glutathione Peroxidase 1
Synonyms:	GPXD; GSHPX1
Mammalian Cell Selection:	None
Vector:	pCMV6-XL5
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>SC119804 representing NM_000581. Blue=Insert sequence Red=Cloning site Green=Tag(s) ATGTGTGCTGCTCGGCTAGCGGCGGCGGCGGCGGCCCAGTCGGTGTATGCCTTCTCGGCGCGCCCGCTG GCCGGCGGGGAGCCTGTGAGCCTGGGCTCCCTGCGGGGCAAGGTACTACTTATCGAGAATGTGGCGTCC CTCTGAGGCACCACGGTCCGGGACTACACCCAGATGAACGAGCTGCAGCGGCGCCTCGGACCCCGGGGC CTGGTGGTGCTCGGCTTCCCGTGCAACCAGTTTGGGCATCAGGAGAACGCCAAGAACGAAGAGATTCTG AATTCCCTCAAGTACGTCCGGCCTGGTGGTGGGTTCCAGCCCAACTTCATGCTCTTCGAGAAGTGCGAG GTGAACGGTGCGGGGGCGCACCCTCTCTTCGCCTTCCTGCGGGAGGCCCTGCCAGCTCCCAGCGACGAC GCCACCGCGCTTATGACCGACCCCAAGCTCATCACCTGGTCTCCGGTGTGTCGCAACGATGTTGCCTGG AACTTTGAGAAGTTCCTGGTGGGCCCTGACGGTGTGCCCCTACGCAGGTACAGCCGCCGCTTCCAGACC ATTGACATCGAGCCTGACATCGAAGCCCTGCTGTCTCAAGGGCCCAGCTGTGCCTAG

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5' Read Nucleotide Sequence:

>OriGene 5' read for NM_000581 unedited
TTTTGTAATACGACTCACTATAGGGCGGCCGCGAATTCGGCACGAGGGCCTGCTGGCCTC
CCCTTATAGTGCTTGTTCGGGGCGCTCCGCTGGCTTCTTGGACAATTGCGCCATGTGTGC
TGCTCGGCTAGCGGCGGCGGCGGCGGCCCAGTCGGTGTATGCCTTCTCGGCGCGCCCGCT
GGCCGGCGGGGAGCCTGTGAGCCTGGGCTCCCTGCGGGGCAAGGTACTACTTATCGAGAA
TGTGGCGTCCCTCTGAGGCACCACGGTCCGGGACTACACCCAGATGAACGAGCTGCAGCG
GCGCCTCGGACCCCGGGGCCTGGTGGTGCTCGGCTTCCCGTGCAACCAGTTTGGGCATCA
GGAGAACGCCAAGAACGAAGAGATTCTGAATTCCCTCAAGTACGTCCGGCCTGGTGGTGG
GTTCCAGCCCAACTTCATGCTCTTCGAGAAGTGCGAGGTGAACGGTGCGGNGGCGCACCC
TCTCTTCGCCTTCCTGCGGGAGGCCCTGCCAGCTCCCAGCGACGACGCCACCGCGCTTAT
GACCGACCCCAAGCTCATCACCTGGTCTCCGGTGTGTCGCAACGATGTTGCCTGGAACTT
TGAGAAGTTCCTGGTGGGCCCTGACGGTGTGCCCCTACGCAGGTACAGCCGCCGCTTCCA
GACCATTGACATCGAGCCTGACATCGAAGCCCTGCTGTCTCAAGGGCTCAGCTGTGCCTA
GGGCGCCCCTNCCTACCCNGCTGCTNTGCAGNTGCAGTGCTGCTGTCTCGGNNGGGTTTT
CATCTATGAGGGGNTGTTNCCTCTAACCTACGAGGGNNAGACACCCTGATCTACAGAAAA
TCCACCTCGAGATGGNTGCTGGTCCCTGTGATCCCAGTCTCTGCCAGACCAGGCGAGTTC
NCCCACTATAAGGCGCCGGTTGTCAGCAGAAAAAAAAA

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_000581 unedited
TTTTTTTTTTTTTTTTTCGGGGGCACCCCCGGCACTTTATTAGGGGGGAAACTCCCCTTG
GTCTGGCAAAAACTGGGATCAACAGGACCAGCCCCCATTTCGGAGGGGGTATTTTCTGTA
AAAACAGGGGTTCCTCCCTCGTAGGTTTAAAGGAAACACCCTCATAAATGAAAACCCCCC
CGAAACAGCAGCACTGCAACTGCCAAGCAGCCGGGGTAGGAGGGGCCCCCTAGGCACAGC
TGACCCCTTGAAACAGCAGGGCTTCAATGTCAGGCTCGATGTCAATGGTCTGGAAGCGGC
GGCTGTACCTGCGTAGGGGCACACCGTCAGGGCCCACCAGAAACTTTTAAAAGTTCCAGG
CAACATCGTTGCGACACACCGGAAACCAGGTGATGAGCTTGGGGTCGGTCATAAGCG

Restriction Sites: NotI-NotI

ACCN: NM_000581

Insert Size: 609 bp

OTI Disclaimer: 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 custsupport@origene.com 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. More info

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:	1. Centrifuge at 5,000xg for 5min. 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA. 3. Close the tube and incubate for 10 minutes at room temperature. 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom. 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
RefSeq:	NM_000581.2
RefSeq Size:	921 bp
RefSeq ORF:	609 bp
Locus ID:	2876
UniProt ID:	P07203
Cytogenetics:	3p21.31
Domains:	GSHPx
Protein Families:	Druggable Genome
Protein Pathways:	Amyotrophic lateral sclerosis (ALS), Arachidonic acid metabolism, Glutathione metabolism, Huntington's disease
MW:	22 kDa
Gene 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] Transcript Variant: This variant (1) encodes the longest isoform (1).