

## Product datasheet for **MR202058**

### Gpx1 (NM\_008160) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Gpx1 (NM\_008160) Mouse Tagged ORF Clone  
**Symbol:** Gpx1  
**Synonyms:** A1195024; AL033363; CGP; CGPx; Gp; Gpx; GPx-; GPx-1; GSHPx; GSHPx-1  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**ORF Nucleotide Sequence:** >MR202058 representing NM\_008160  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGTGTGCTGCTCGGCTCTCCGCGCGGCACAGTCCACCGTGTATGCCTTCTCCGCGCGCCCGCTGACGG  
 GCGGGGAGCCTGTGAGCCTGGGCTCCCTGCGGGCAAGGTGCTGCTCATTGAGAAATGTCGCGTCTCTCTG  
 AGGCACCACGATCCGGGACTACACCGAGATGAACGATTCGAGAAGCGTCTGGGACCTCGTGACTGGTG  
 GTGCTCGGTTTCCCGTGAATCAGTTCGGACACCAGGAGAATGGCAAGAATGAAGAGATTCTGAATCCC  
 TCAAGTACGTCCGACCTGGTGGCGGTTTCGAGCCCAATTTACATTGTTTGAGAAGTGCGAAGTGAATGG  
 TGAGAAGGCTCACCCGCTTTTACCTTCCTGCGGAATGCCTTGCCAACACCCAGTGACGACCCCACTGCG  
 CTCATGACCGACCCCAAGTACATCATTTGGTCTCCGGTGTGCCGCAACGACATTGCCTGGAACCTTGAGA  
 AGTTCTGGTGGGCCCGACGGTGTCCCGTGCAGGTACAGCCCGCTTTCGTACCATCGACATCGA  
 ACCTGACATAGAAACCCTGCTGTCCAGCAGTCTGGCAACTCC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >MR202058 representing NM\_008160  
 Red=Cloning site Green=Tags(s)

MCAARLSAAAQSTVYAFSARPLTGGEVSLGSLRGKVLIIENVASL\*GTTIRDYTEMNDLQKRLGPRGLV  
 VLGFPNCQFGHQENGNKEEILNSLKYYVRPGGFEPNFTLFEKCEVNGEKAHPLFTFLRNALPTPSDDPTA  
 LMTDPKYIIWSPVCRNDIAWNFEKFLVGPDPVPRRYSRRFRTIDIEPDIETLLSQSGNS

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:** SgfI-MluI



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**Cloning Scheme:**



**ACCN:** NM\_008160

**OTI Disclaimer:** 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](#) The expression of this clone is not guaranteed due to the nature of selenoproteins.

**OTI Annotation:** This clone encodes a selenoprotein containing the rare amino acid selenocysteine (Sec). Sec is encoded by UGA codon, which normally signals translational termination. Expression of this clone is not guaranteed due to the nature of selenoproteins.

**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\\_008160.6](#), [NP\\_032186.2](#)

**RefSeq Size:** 848 bp

**RefSeq ORF:** 606 bp

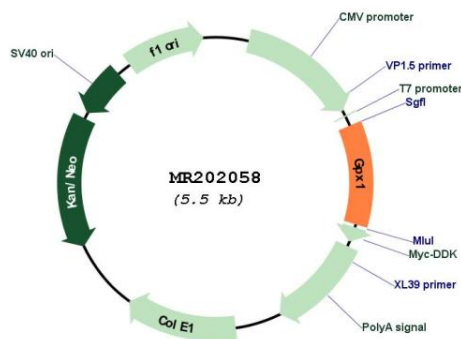
**Locus ID:** 14775

**UniProt ID:** [P11352](#)

**Cytogenetics:** 9 59.24 cM

**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 (H<sub>2</sub>O<sub>2</sub>) by glutathione, and thereby protect cells against oxidative damage. Knockout mice lacking this gene are highly sensitive to oxidants, and develop mature cataracts due to damage to the eye lens nucleus. 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. Alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Jul 2016]

**Product images:**



Circular map for MR202058