

## Product datasheet for **RG207758**

### Glutathione Peroxidase 3 (GPX3) (NM\_002084) Human Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Glutathione Peroxidase 3 (GPX3) (NM\_002084) Human Tagged ORF Clone  
**Symbol:** Glutathione Peroxidase 3  
**Synonyms:** GPx-P; GSHPx-3; GSHPx-P  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-AC-GFP (PS100010)  
**E. coli Selection:** Ampicillin (100 ug/mL)  
**ORF Nucleotide Sequence:** >RG207758 representing NM\_002084  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGGCCCGGCTGCTGCAGGCGTCTGCCTGCTTTCCCTGCTCCTGGCCGGCTTCGTCCTCGCAGAGCCGGG  
 GACAAGAGAAGTCGAAGATGGACTGCCATGGTGGCATAAGTGGCACCATTACGAGTACGGAGCCCTCAC  
 CATTGATGGGGAGGAGTACATCCCCTTCAAGCAGTATGCTGGCAAATACGTCCTTTGTCAACGTGGCC  
 AGCTACTGAGGCCTGACGGGCCAGTACATTGAAGTGAATGCACTACAGGAAGAGCTTGCACCATTCCGTC  
 TGGTCATTCTGGGCTTTCCCTGCAACCAATTTGGAAAACAGGAACAGGAGAGAAGTCCAGATCCTTCC  
 TACCCTCAAGTATGTCCGACCAGGTGGAGGCTTTGTCCCTAATTTCCAGCTCTTTGAGAAAAGGGGATGTC  
 AATGGAGAGAAAAGAGCAGAAATTCTACACTTTCTAAAGAACTCCTGTCTCCACCTCGGAGCTCCTGG  
 GTACATCTGACCGCCTCTTCTGGGAACCCATGAAGGTTACGACATCCGCTGGAAGTTTGTGAGAAAGTCT  
 GGTGGGGCCAGATGGTATACCCATCATGCGCTGGCACCACCGGACCACGGTCAGCAACGTCAAGATGGAC  
 ATCCTGTCTACATGAGGCGGCAGGCAGCCCTGGGGGTCAAGAGGAAG

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:** >RG207758 representing NM\_002084  
 Red=Cloning site Green=Tags(s)

MARLLQASCLLSLLLAGFVSQSRGQEKSKMDCHGGISGTIYEYGALTIDGEEYIPFKQYAGKYVLFVNVA  
 SY\*GLTGQYIELNALQEELAPFGLVILGFPCNQFGKQEPGENSEILPTLKYYVRPGGGFVPNFQLFEKGDV  
 NGEKEQKFYFTFLKNSCPPTSELLGTSDFWPEPMKVHDIRWNFEKFLVGPDPGIPIMRWHHRTTVSNVKMD  
 ILSYMRQAALGVKRK

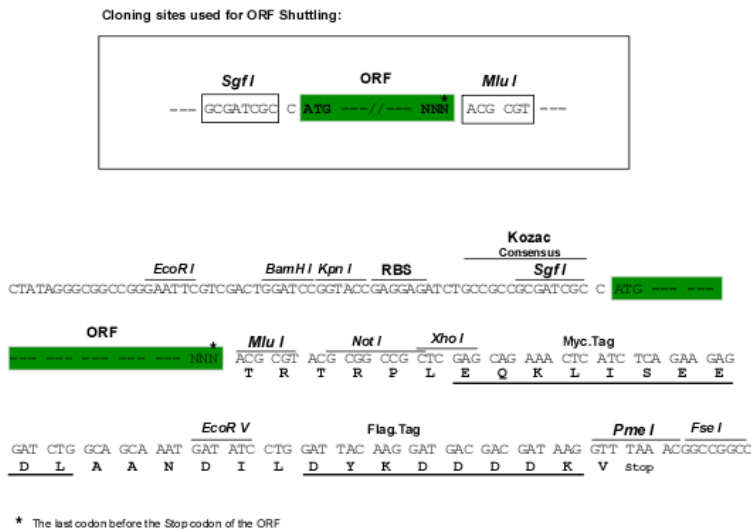
**TRTRPLE** - GFP Tag - V



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Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM\_002084

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\\_002084.5](#)

RefSeq Size: 1779 bp

RefSeq ORF: 681 bp

Locus ID: 2878

UniProt ID: [P22352](#)

**Cytogenetics:** 5q33.1

**Protein Families:** Druggable Genome, Secreted Protein

**Protein Pathways:** Arachidonic acid metabolism, Glutathione metabolism

**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. Several isozymes of this gene family exist in vertebrates, which vary in cellular location and substrate specificity. This isozyme is secreted, and is abundantly found in plasma. Downregulation of expression of this gene by promoter hypermethylation has been observed in a wide spectrum of human malignancies, including thyroid cancer, hepatocellular carcinoma and chronic myeloid leukemia. This isozyme 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 RG207758