**OriGene Technologies, Inc.**
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

# Product datasheet for RR211963

## Gpx3 (NM_022525) Rat Tagged ORF Clone

### Product data:

**Product Type:** Expression Plasmids

**Product Name:** Gpx3 (NM_022525) Rat Tagged ORF Clone

**Symbol:** Gpx3

**Synonyms:** GPx-3; GPx-P; Gpxp; GSHPx-3; GSHPx-P

**Vector:** pCMV6-Entry (PS100001)

**E. coli Selection:** Kanamycin (25 ug/mL)

**Cell Selection:** Neomycin

**ORF Nucleotide Sequence:**

>RR211963 representing NM_022525
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCCCGGATCCTTCGGGCATCCTGCCTCCTGTCCCTGCTCCTGGCCGGGTTTGTTCCGCCGGGCCGGG
GACAAGAGAAGTCCAAGACAGACTGCCATGGCGGTATGAGCGGTACCATCTACGAGTATGGAGCCCTTAC
CATCGATGGGGAGGAATACATTCCTTTTAAGCAGTATGCTGGCAAATACATCCTCTTTGTCAACGTAGCC
AGCTACTGAGGTCTGACAGACCAATACCTTGAACTGAATGCACTACAAGAAGAACTTGGCCCATTCGGCC
TGGTCATTCTGGGCTTCCCTTGCAACCAATTTGGCAAACAGGAGCCAGGCGAGAACTCGGAGATCCTGCC
TAGTCTCAAGTACGTTCGACCGGGTGGGGGCTTTGTGCCTAATTTCCAGCTCTTTGAGAAAGGAGACGTG
AACGGGGAGAAAGAGCAGAAGTTCTACACTTTCCTGAAGAACTCCTGCCCTCCCACTGCGGAACTCCTGG
GCTCACCTGGCCGCCTCTTTTGGGAACCCATGAAGATCCATGACATCCGCTGGAACTTTGAGAAGTTCCT
GGTGGGGCCAGATGGCATACCAATTATGCGCTGGTACCACCGGACCACAGTCAGCAACGTCAAGATGGAC
ATCCTGTCCTATATGAGGCGGCAGGCAGCCCTGGGGGCCAGAGGGAAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RR211963 representing NM_022525
Red=Cloning site Green=Tags(s)

MARILRASCLLSLLLAGFVPPGRGQEKSKTDCHGGMSGTIYEYGALTIDGEEYIPFKQYAGKYILFVNVA
SY*GLTDQYLELNALQEELGPFGLVILGFPCNQFGKQEPGENSEILPSLKYVRPGGGFVPNFQLFEKGDV
NGEKEQKFYTFLKNSCPPTAELLGSPGRLFWEPMKIHDIRWNFEKFLVGPDGIPIMRWYHRTTVSNVKMD
ILSYMRRQAALGARGK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

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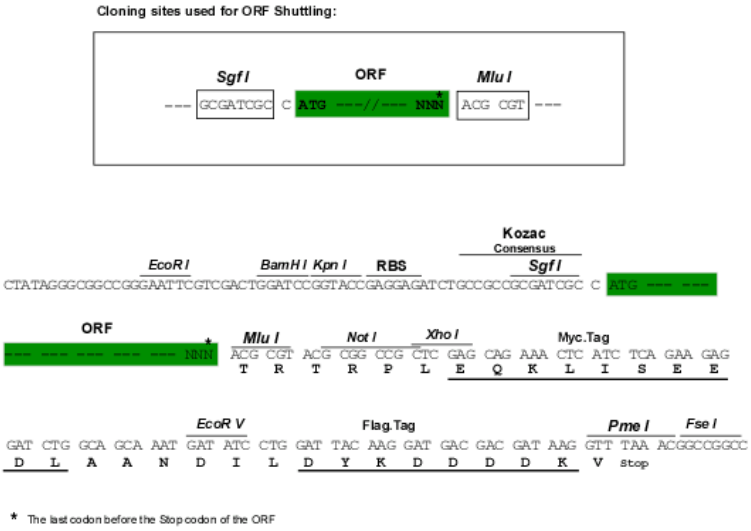
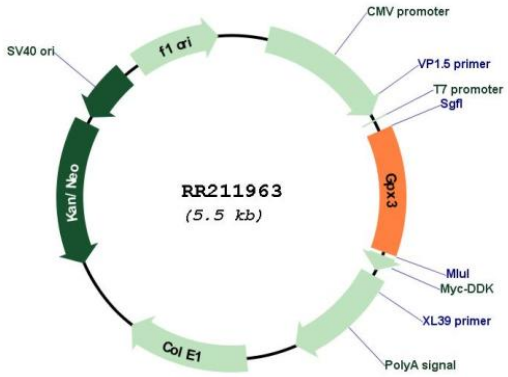
**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**




**Plasmid Map:**




**ACCN:** NM_022525

**ORF Size:** 678 bp

**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.<br>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.<br>3. Close the tube and incubate for 10 minutes at room temperature.<br>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.<br>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_022525.4 |
| **RefSeq Size:** | 1488 bp |
| **RefSeq ORF:** | 681 bp |
| **Locus ID:** | 64317 |
| **UniProt ID:** | P23764 |
| **Cytogenetics:** | 10q22 |
| **MW:** | 25.4 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. Several isozymes of this gene family exist in vertebrates, which vary in cellular location and substrate specificity. This isozyme is secreted and is predominantly expressed in rat kidney, which appears to be the major source of the enzyme in plasma. Dysregulation of this isozyme has been associated with obesity-related metabolic complications. 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. [provided by RefSeq, Aug 2016] |