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Product datasheet for RG209365

Glutathione Peroxidase 2 (GPX2) (NM_002083) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Glutathione Peroxidase 2 (GPX2) (NM_002083) Human Tagged ORF Clone
Symbol:	Glutathione Peroxidase 2
Synonyms:	GI-GPx; GPRP; GPRP-2; GPx-2; GPx-GI; GSHPx-2; GSHPX-GI
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)

ORF Nucleotide Sequence:

>RG209365 representing NM_002083
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCTTTCATTGCCAAGTCCTTCTATGACCTCAGTGCCATCAGCCTGGATGGGGAGAAGGTAGATTTCA
ATACGTTCCGGGGCAGGGCCGTGCTGATTGAGAATGTGGCTTCGCTCTGAGGCACAACCACCCGGGACTT
CACCCAGCTCAACGAGCTGCAATGCCGCTTTCCCAGGCGCCTGGTGGTCCTTGGCTTCCCTTGCAACCAA
TTTGGACATCAGGAGAACTGTCAGAATGAGGAGATCCTGAACAGTCTCAAGTATGTCCGTCCTGGGGGTG
GATACCAGCCCACCTTCACCCTTGTCCAAAAATGTGAGGTGAATGGGCAGAACGAGCATCCTGTCTTCGC
CTACCTGAAGGACAAGCTCCCCTACCCTTATGATGACCCATTTTCCCTCATGACCGATCCCAAGCTCATC
ATTTGGAGCCCTGTGCGCCGCTCAGATGTGGCCTGGAACTTTGAGAAGTTCCTCATAGGGCCGGAGGGAG
AGCCCTTCCGACGCTACAGCCGCACCTTCCCAACCATCAACATTGAGCCTGACATCAAGCGCCTCCTTAA
AGTTGCCATA

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG209365 representing NM_002083
Red=Cloning site Green=Tags(s)

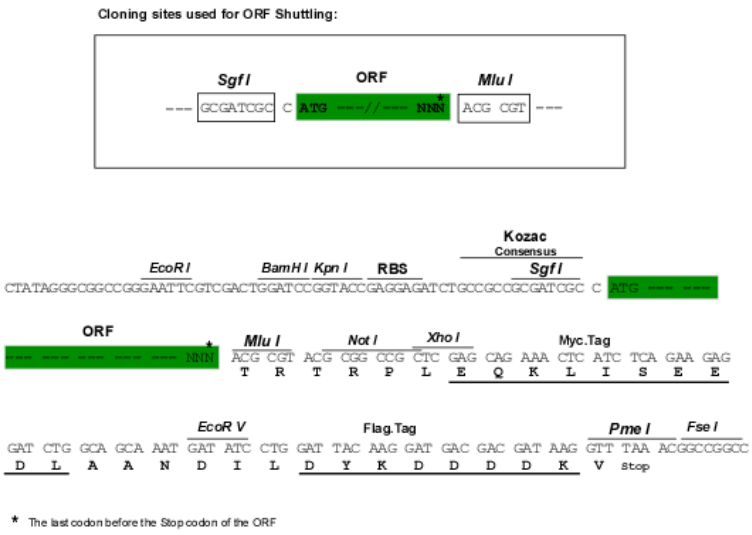
MAFIAKSFYDLSAISLDGEKVDFNTFRGRAVLIENVASL*GTTTRDFTQLNELQCRFPRRLVVLGFPCNQ
FGHQENCQNEEILNSLKYVRPGGGYQPTFTLVQKCEVNGQNEHPVFAYLKDKLPYPYDDPFSLMTDPKLI
IWSPVRRSDVAWNFEKFLIGPEGEPFRRYSRTFPTINIEPDIKRLLKVAI

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

View online »

Cloning Scheme:



ACCN: NM_002083

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_002083.4

RefSeq Size: 1024 bp

RefSeq ORF: 573 bp

Locus ID: 2877

UniProt ID: P18283

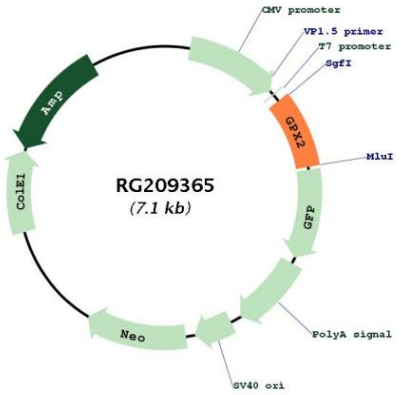
Cytogenetics: 14q23.3

Protein Families: Druggable Genome

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 (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 predominantly expressed in the gastrointestinal tract (also in liver in human), is localized in the cytoplasm, and whose preferred substrate is hydrogen peroxide. Overexpression of this gene is associated with increased differentiation and proliferation in colorectal cancer. 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 RG209365