

## Product datasheet for **RC200729L3V**

### Glutathione Peroxidase 1 (GPX1) (NM\_000581) Human Tagged ORF Clone Lentiviral Particle

#### Product data:

Product Type:	Lentiviral Particles
Product Name:	Glutathione Peroxidase 1 (GPX1) (NM_000581) Human Tagged ORF Clone Lentiviral Particle
Symbol:	Glutathione Peroxidase 1
Synonyms:	GPXD; GSHPX1
Mammalian Cell Selection:	Puromycin
Vector:	pLenti-C-Myc-DDK-P2A-Puro (PS100092)
Tag:	Myc-DDK
ACCN:	NM_000581
ORF Size:	609 bp
ORF Nucleotide Sequence:	The ORF insert of this clone is exactly the same as(RC200729).
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. <a href="#">More info</a>
OTI Annotation:	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
RefSeq:	<a href="#">NM_000581.2</a>
RefSeq Size:	921 bp
RefSeq ORF:	612 bp
Locus ID:	2876
UniProt ID:	<a href="#">P07203</a>
Cytogenetics:	3p21.31
Domains:	GSHPx
Protein Families:	Druggable Genome



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<b>Protein Pathways:</b>	Amyotrophic lateral sclerosis (ALS), Arachidonic acid metabolism, Glutathione metabolism, Huntington's disease
<b>MW:</b>	21.9 kDa
<b>Gene Summary:</b>	<p>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. 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. 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]</p>