Rat Glutathione Peroxidase (GSH-PX) ELISA kit

Product Code	CSB-E12146r
Abbreviation	GPX1
Target Name	glutathione peroxidase 1
Uniprot No.	P04041
Alias	GSHPX1, MGC14399, MGC88245, OTTHUMP00000210766|cellular glutathione peroxidase
Product Type	ELISA Kit
Immunogen Species	Rattus norvegicus (Rat)
Sample Types	serum, plasma, tissue homogenates
Detection Range	12.5 mIU/mL-800 mIU/mL
Sensitivity	3.12 mIU/mL
Assay Time	1-5h
Sample Volume	50-100ul
Detection Wavelength	450 nm
Lead Time	3-5 working days after you place the order, and it takes another 3-5 days for delivery via DHL or FedEx.
Research Area	Cancer
Gene Names	Gpx1
Tag Info	quantitative
Protein Description	Sandwich

Description

CUSABIO's rat GPX1 ELISA kit is an in vitro enzyme-linked immunosorbent assay for the quantitative determination of GPX1 concentrations in serum, plasma, and tissue homogenates. This assay exclusively recognizes rat GPX1. The quantitative sandwich ELISA technique of this kit is based on GPX1 antibody-GPX1 antigen interactions and an HRP colorimetric detection system to detect the levels of GPX1 in samples. The intensity of the color is positively proportional to the amount of bound GPX1 in the initial step.

GPX1 is a selenocysteine-containing intracellular antioxidant enzyme that enzymatically reduces hydrogen peroxide to water to limit its harmful effects. In mitochondria, GPX1 is thought to protect mitochondrial DNA from oxidative damage. GPX1 overexpression is linked to increased protection against oxidative stress in cell culture models as well ad in genetic mouse models. GPX1 is also involved in the regulation of the cell cycle by controlling cellular levels of hydrogen peroxide. Okubo et al. showed that GPX1 supports cancer cell survival and increases the incidence of metastasis.

Target Details

This gene encodes a member of the glutathione peroxidase family. Glutathione peroxidase functions in the detoxification of hydrogen peroxide, and is one of the most important antioxidant enzymes in humans. This protein is one of only a few proteins known in higher vertebrates to contain selenocysteine, which occurs at the active site of glutathione peroxidase and is coded by UGA, that normally functions as a translation termination codon. In addition, this protein is characterized in a polyalanine sequence polymorphism in the N-terminal region, which includes three alleles with five, six or seven alanine (ALA) repeats in this sequence. The allele with five ALA repeats is significantly associated with breast cancer risk. Two alternatively spliced transcript variants encoding distinct isoforms have been found for this gene.

Product Precision

Intra-assay Precision (Precision within an assay): CV%<8%

Three samples of known concentration were tested twenty times on one plate to assess.

Inter-assay Precision (Precision between assays): CV%<10%

Three samples of known concentration were tested in twenty assays to assess.

Linearity

To assess the linearity of the assay, samples were spiked with high concentrations of rat GSH-PX in various matrices and diluted with the Sample Diluent to produce samples with values within the dynamic range of the assay.

?	Sample	Serum(n=4)
1:200	Average %	92
	Range %	85-100
1:400	Average %	97
	Range %	94-101
1:800	Average %	95
	Range %	90-99
1:1600	Average %	93
	Range %	87-98

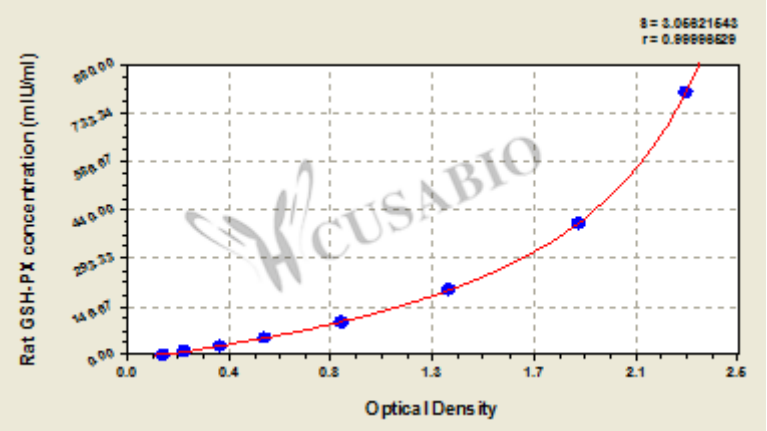
Recovery

The recovery of rat GSH-PX spiked to levels throughout the range of the assay in various matrices was evaluated. Samples were diluted prior to assay as directed in the Sample Preparation section.

Sample Type	Average % Recovery	Range
Serum (n=5)	94	86-100
EDTA plasma (n=4)	100	95-105

Typical

These standard curves are provided for demonstration only. A standard curve should be generated for each set of samples assayed.



mIU/ml	OD1	OD2	Average	Corrected
800	2.251	2.299	2.275	2.119
400	1.845	1.834	1.840	1.684
200	1.301	1.324	1.313	1.157
100	0.892	0.876	0.884	0.728
50	0.553	0.590	0.572	0.416
25	0.395	0.381	0.388	0.232
12.5	0.251	0.234	0.243	0.087
0	0.155	0.157	0.156	?

Msds

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