

# Human Glutathione Peroxidase 1 ELISA Kit ab193767

SimpleStep ELISA

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## Overview

**Product name** Human Glutathione Peroxidase 1 ELISA Kit

**Detection method** Colorimetric

**Precision** Intra-assay

Sample	n	Mean	SD	CV%
Overall	4			4.17%

Inter-assay

Sample	n	Mean	SD	CV%
Overall	3			9.8%

**Sample type** Serum, Cell culture extracts, Tissue Extracts, Hep Plasma, EDTA Plasma, Cit plasma

**Assay type** Sandwich (quantitative)

**Sensitivity** 0.11 ng/ml

**Range** 0.4 ng/ml - 25 ng/ml

**Recovery** Sample specific recovery

Sample type	Average %	Range
Serum	96	92% - 101%
Hep Plasma	99	99% - 100%
EDTA Plasma	93	91% - 98%
Cit plasma	93	91% - 97%
Extraction Buffer	96	91% - 100%

**Assay time** 1h 30m

**Assay duration** One step assay

**Species reactivity****Reacts with:** Human**Product overview**

Human Glutathione Peroxidase 1 ELISA Kit (ab193767) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Glutathione Peroxidase 1 protein in cell culture extracts, cit plasma, edta plasma, hep plasma, serum, and tissue extracts. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Glutathione Peroxidase 1 with 0.11 ng/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate (**ab203359**) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

**Notes**

GPX1 is a selenium-containing enzyme part of the glutathione system responsible for protecting against oxidative damage by catalyzing the reduction of hydroperoxides with glutathione. The homotetramer, GPX1, utilizes its selenocysteine-containing active site to primarily scavenge hydrogen peroxide. The dimerization of glutathione ultimately provides the electrons to reduce the active site, restoring GPX1's activity. As a critical component of the regulation of oxidative species within cells, GPX1 is directly involved in metabolism, various cancers, and oxidative stress. This assay is specific to isoform 1 of glutathione peroxidase.

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**Platform**

Microplate

**Properties****Storage instructions**

Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Human GPX1 Capture Antibody	1 x 600µl
10X Human GPX1 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1 ml

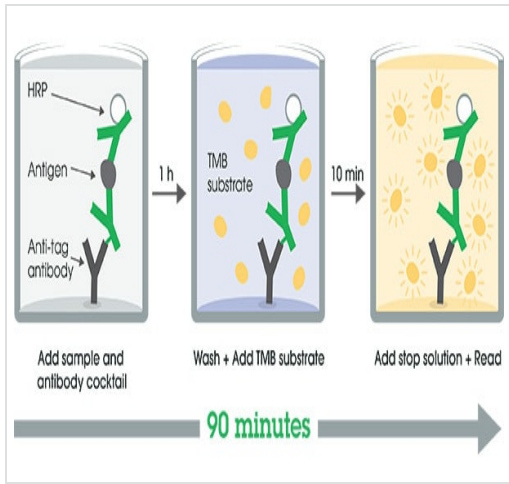
Components	1 x 96 tests
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent CPI - HAMA Blocker (ab193969)	1 x 6ml
Human GPX1 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent 75BP	1 x 20ml
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

**Function** Protects the hemoglobin in erythrocytes from oxidative breakdown.

**Sequence similarities** Belongs to the glutathione peroxidase family.

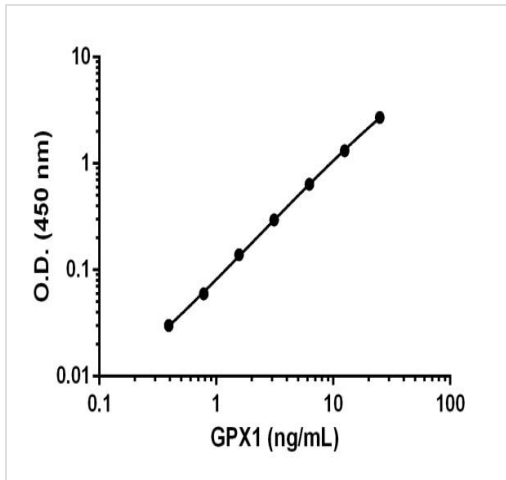
**Cellular localization** Cytoplasm.

**Images**



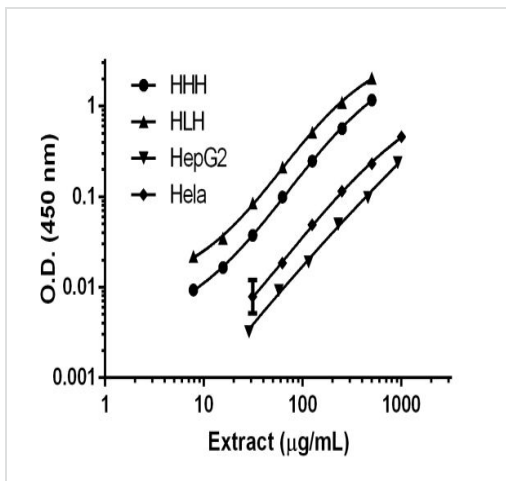
SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.

Other - Human Glutathione Peroxidase 1 ELISA Kit (ab193767)



Background-subtracted data values (mean +/- SD) are graphed.

Example of Glutathione Peroxidase 1 standard curve.



Background-subtracted data values (mean +/- SD, n = 2) are graphed.

Titration of Human Heart Homogenate (HHH), Human Liver Homogenate (HLH), HepG2, and HeLa extracts within the working range of the assay.

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