

## Product datasheet

# Glutathione Peroxidase Assay Kit (Colorimetric) ab102530

★★★★★ 1 Abreviews 52 References 6 Images

### Overview

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<b>Product name</b>	Glutathione Peroxidase Assay Kit (Colorimetric)
<b>Detection method</b>	Colorimetric
<b>Sample type</b>	Cell culture supernatant, Urine, Serum, Plasma, Platelets, Other biological fluids, Tissue Extracts
<b>Assay type</b>	Enzyme activity
<b>Sensitivity</b>	0.5 mU/ml
<b>Assay time</b>	0h 40m
<b>Species reactivity</b>	<b>Reacts with:</b> Mammals, Other species
<b>Product overview</b>	Glutathione Peroxidase Assay Kit (Colorimetric) ab102530 can be used to quantitate the activity of all of the glutathione dependent peroxidases in plasma, erythrocyte lysates, tissue homogenates, and cell lysates.

In the glutathione peroxidase assay protocol, glutathione peroxidase (GPx) oxidizes GSH to produce GSSG as part of the reaction in which it reduces cumene hydroperoxide. Glutathione reductase (GR) then reduces the GSSG to produce GSH, and in the same reaction consumes NADPH. The decrease of NADPH (measured at OD=340 nm) is proportional to GPx activity.

The assay has a detection sensitivity of ~ 0.5 mU/ml of GPx in samples.

Glutathione peroxidase assay protocol summary:

- add samples and standards to wells
- add reaction mix and incubate for 15 min at room temp to deplete all GSSG in sample
- add cumene hydroperoxide
- analyze with microplate reader immediately, and after at least 5 min

**Notes** This product is manufactured by BioVision, an Abcam company and was previously called K762 Glutathione Peroxidase Activity Colorimetric Assay Kit. K762-100 is the same size as the 100 test size of ab102530.

The Glutathione Peroxidase (GPx, EC 1.11.1.9) family of enzymes plays an important role in the protection of organisms from oxidative damage. GPx converts reduced glutathione (GSH) to oxidized glutathione (GSSG) while reducing lipid hydroperoxides to their corresponding alcohols or free hydrogen peroxide to water.

**Platform** Microplate reader

## Properties

### Storage instructions

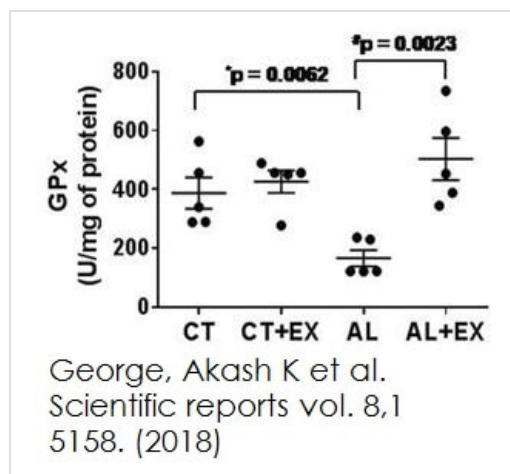
Store at -20°C. Please refer to protocols.

Components	Identifier	100 tests	2000 tests
Cumene Hydroperoxide	Yellow	1 vial	20 vials
Glutathione	Brown	1 vial	20 vials
Glutathione Reductase	Green	1 vial	20 vials
GPx Assay Buffer	WM	1 x 50ml	20 x 50ml
GPx Positive Control	Red	1 vial	20 vials
NADPH	Blue	1 vial	20 vials

### Relevance

Glutathione Peroxidase (GPx, EC 1.11.1.9) is an enzyme family with peroxidase activity, and plays important role in protecting of organisms from oxidative damage. It converts reduced glutathione (GSH) to oxidized glutathione (GSSG), to reduce lipid hydroperoxides to their corresponding alcohols, or reduce free hydrogen peroxide to water. Several isozymes have been found in different cellular locations and with different substrate specificity. Low levels of GPx have been correlated with free radical related disorders.

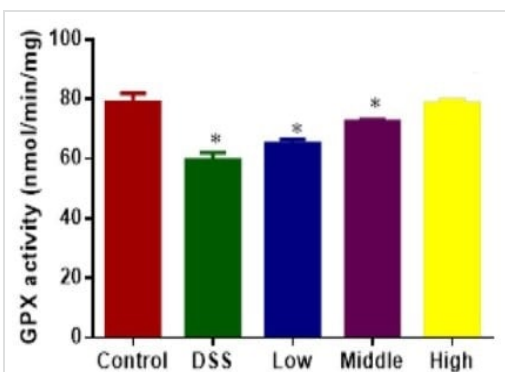
### Images



Scatter dot plots representing the levels of glutathione peroxidase (GPx) in brain tissue in different mice groups.

Functional Studies - Glutathione Peroxidase Assay  
Kit (Colorimetric) (ab102530)

George, Akash K et al., Scientific reports?vol. 8,1 5158.,  
Fig 4, doi:10.1038/s41598-018-23568-z



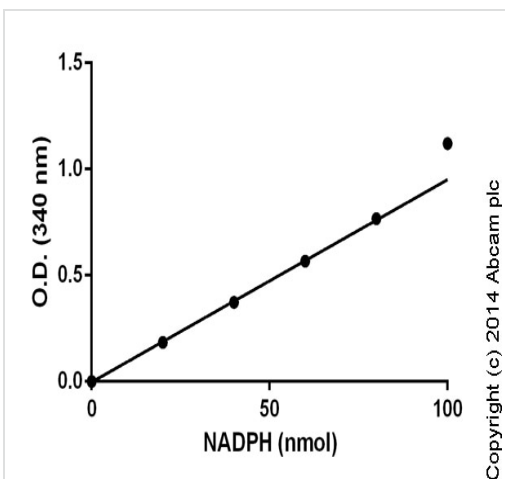
Liu, Baohai et al.  
Frontiers in pharmacology vol. 9 347.  
(2018)

Functional Studies - Glutathione Peroxidase Assay

Kit (Colorimetric) (ab102530)

Liu, Baohai et al., Frontiers in pharmacology?vol. 9  
347., Fig 8, doi:10.3389/fphar.2018.00347

The effects of PCSE on the activity of GPX in a mouse UC model.

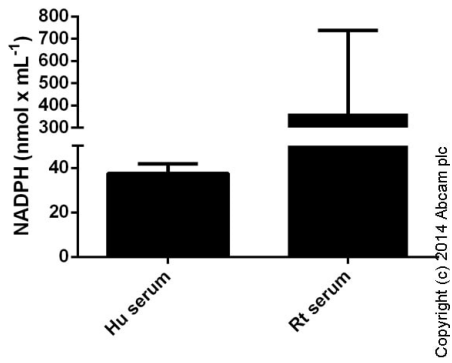


Standard curve: mean of duplicates (+/- SD) with background reads subtracted

Functional Studies - Glutathione Peroxidase Assay

Kit (ab102530)

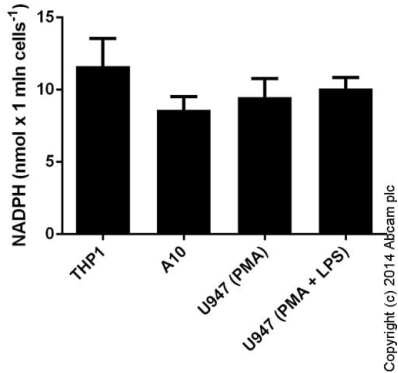
**Glutathione Peroxidase Activity in biological fluids (10 min)**



Glutathione Peroxidase Activity measured in biological fluids showing quantity (nmol) per 1 mL after 10 min of incubation. Samples diluted 1-27 fold.

Functional Studies - Glutathione Peroxidase Assay Kit (ab102530)

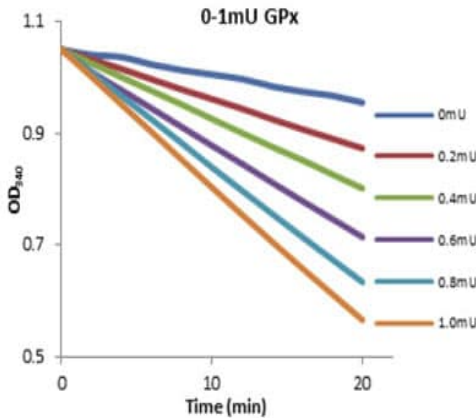
**Glutathione Peroxidase Activity in cell lysates (10 min)**



Glutathione Peroxidase Activity measured in cell lysates showing quantity (nmol) per 1 mln cells after 10 min of incubation. Undiluted sample contained 2.5e6 cells per well. Samples were diluted 1-9 fold.

Functional Studies - Glutathione Peroxidase Assay Kit (ab102530)

**0-1mU GPx**



Tests example obtained using ab102530

Functional Studies - Glutathione Peroxidase Assay Kit (ab102530)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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