

## Product datasheet

# Glutathione Reductase (GR) Assay Kit ab83461

5 References 6 Images

### Overview

<b>Product name</b>	Glutathione Reductase (GR) Assay Kit
<b>Detection method</b>	Colorimetric
<b>Sample type</b>	Urine, Serum, Plasma, Other biological fluids, Tissue Extracts, Cell Lysate
<b>Assay type</b>	Enzyme activity
<b>Sensitivity</b>	> 0.1 mU/ml
<b>Range</b>	0.1 mU/ml - 40 mU/ml
<b>Assay time</b>	0h 40m
<b>Product overview</b>	Glutathione Reductase Assay Kit (ab83461) is a highly sensitive, simple, direct and HTS-ready colorimetric assay for measuring GR activity in biological samples. In the assay, GR reduces GSSG to GSH, which reacts with 5, 5'-Dithiobis (2-nitrobenzoic acid) (DTNB) to generate TNB2- (yellow color, $\lambda_{max}$ = 405 nm). The assay can detect 0.1-40 mU/ml GR in various samples.
<b>Notes</b>	Glutathione Reductase (GR, EC 1.8.1.7) catalyzes the NADPH-dependent reduction of oxidized glutathione (GSSG) to reduced glutathione (GSH), which plays an important role in the GSH redox cycle that maintains adequate levels of reduced GSH. A high GSH/GSSG ratio is essential for protection against oxidative stress.  <b>Related products</b>  Review the <a href="#">oxidative stress marker and assay guide</a> to learn about more assays for oxidative stress.
<b>Platform</b>	Microplate reader

### Properties

**Storage instructions** Store at -20°C. Please refer to protocols.

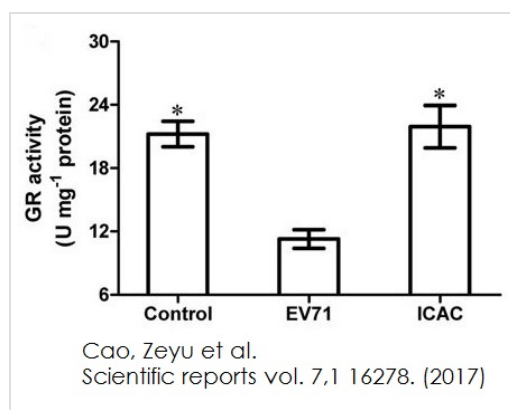
Components	Identifier	200 tests
Catalase (lyophilized)	Clear	1 x 1ng
DTNB (lyophilized)	Red	1 vial
GR Assay Buffer	NM	1 x 100ml
GR Positive Control (10 mU; lyophilized)	Green	1 vial

Components	Identifier	200 tests
GSSG (lyophilized)	Yellow	1 vial
Hydrogen peroxide	Orange	1 x 1ml
NADPH-GNERAT™ (lyophilized)	Blue	2 vials
TNB Standard (2.5 μmol)	Brown	1 x 1ng

**Relevance** Glutathione Reductase (GR, EC 1.8.1.7) catalyzes the NADPH-dependent reduction of oxidized glutathione (GSSG) to reduced glutathione (GSH), which plays an important role in the GSH redox cycle that maintains adequate levels of reduced GSH. A high GSH/GSSG ratio is essential for protection against oxidative stress.

**Cellular localization** Cytoplasmic and Mitochondrial

## Images

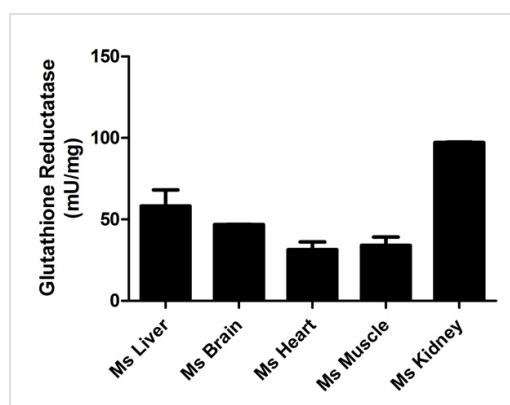


ICAC decreased the ROS level induced by EV71 infection via modulating the antioxidant enzymes involved in GSH metabolism. Infected (100 TCID<sub>50</sub> EV71) Vero cells were treated with medium or 100 μM ICAC for 12 h. Uninfected cells were used as the control group. The antioxidant enzymes activities of the Vero cells were detected (n = 3). All results were expressed as the means ± SEs. Asterisks indicate that the data significantly differ from the EV71 group at the P < 0.05 level according to one-way analysis of variance.

Functional Studies - Glutathione Reductase (GR)

Assay Kit (ab83461)

Cao, Zeyu et al., Scientific reports?vol. 7,1 16278., Fig 5, doi:10.1038/s41598-017-16446-7

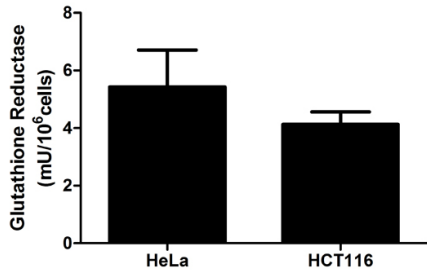


Glutathione reductase measured in mouse tissue lysates showing activity (mU) per mg of extracted protein (T<sub>1</sub>=2 min; T<sub>2</sub>=30 min).

Functional Studies - Glutathione Reductase Assay

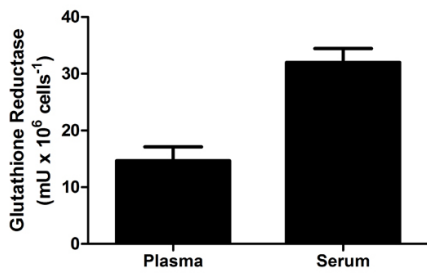
Kit (ab83461)

Glutathione reductase measured in cell lysates (mU) per  $10^6$  cells  
( $T_1=2$  min;  $T_2=30$  min)



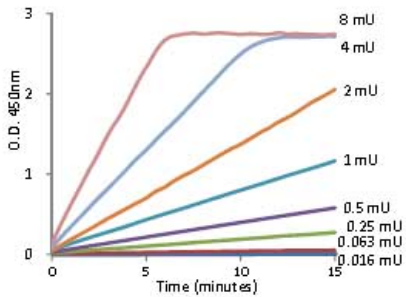
Functional Studies - Glutathione Reductase Assay  
Kit (ab83461)

Glutathione reductase measured in human plasma and serum ( $T_1=2$  min;  $T_2=30$  min) showing activity (mU) per ml of tested sample. No activity was detected in saliva or urine.

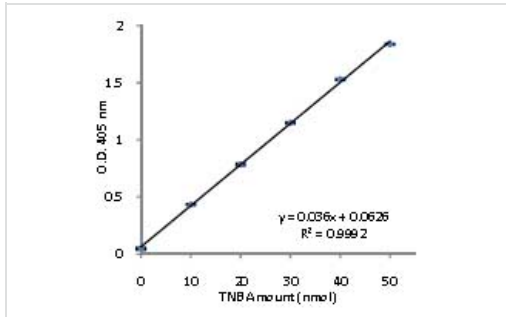


Functional Studies - Glutathione Reductase Assay  
Kit (ab83461)

Glutathione Reductase assay time line using ab83461.



Functional Studies - Glutathione Reductase Assay  
Kit (ab83461)



TNB Standard Curve using ab83461.

Functional Studies - Glutathione Reductase Assay  
Kit (ab83461)

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