



QuantiChrom™ Glutathione Assay Kit

Glutathione is a tripeptide of glycine, glutamic acid and cysteine. In the red blood cell, the reduced form of glutathione is vital in maintaining hemoglobin in a reduced state and hence protecting the cells from oxidative damage. Glutathione is involved in detoxification of hydrogen peroxide through glutathione oxidase. Low levels of glutathione are found in deficiencies of key enzymes involved in glutathione metabolism, such as glucose-6-phosphate dehydrogenase, glutathione synthase and glutathione reductase.

Simple, direct and automation-ready procedures for measuring reduced glutathione are becoming popular in research and drug discovery. BioAssay Systems' QuantiChrom™ Glutathione Assay Kit is designed to accurately measure reduced glutathione in biological samples. The improved 5,5'-dithiobis(2-nitrobenzoic acid) (DTNB) method combines deproteination and detection into one reagent. DTNB reacts with reduced glutathione to form a yellow product. The optical density, measured at 412 nm, is directly proportional to the glutathione concentration in the sample. The optimized formulation has a long shelf life and completely free of interference due to sample turbidity.

APPLICATIONS:

Direct Assays: reduced glutathione in whole blood, plasma, serum, urine, tissue and cell extracts.

Drug Discovery/Pharmacology: effects of drugs on glutathione metabolism.

KEY FEATURES

Sensitive and accurate. Linear detection range 0.4 - 100 μM in 96-well plate.

Simple and convenient. The procedure involves mixing the DTNB Reagent with sample, removing protein precipitates for proteinaceous samples, adding a second Reagent and reading the optical density.

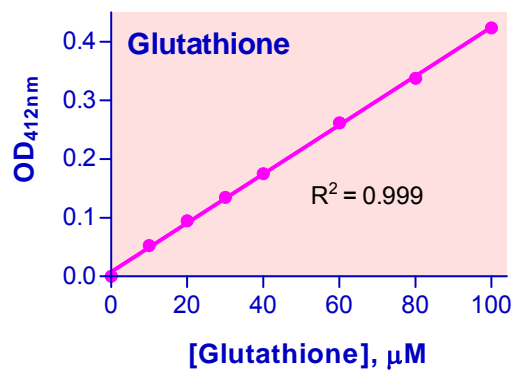
Low interference. Amino acids and common buffers do not interfere.

PRODUCT INFORMATION:

QuantiChrom™ Glutathione Assay Kit DIGT-250

Each kit is sufficient for 250 assays in 96-well plate. Kit includes:

- 1 x 30 mL Reagent A
- 1 x 30 mL Reagent B
- 1 x 10 mL Calibrator



Standard Curve with Freshly Prepared Glutathione in 96-well plate assay

REFERENCES:

[1]. Hu XM, Hirano T, Oka K. (2003). Arsenic trioxide induces apoptosis in cells of MOLT-4 and its daunorubicin-resistant cell line via depletion of intracellular glutathione, disruption of mitochondrial membrane potential and activation of caspase-3. *Cancer Chemother Pharmacol* 52:47-58.

[2]. Diebolt M, Bucher B, Andriantsitohaina R. (2001). Wine polyphenols decrease blood pressure, improve NO vasodilatation, and induce gene expression. *Hypertension*. 38:159-65.

[3]. Katz A, Oldham KT, Guice KS, Coran AG. (1993). Reperfusion injury following single-lung transplantation: the tissue glutathione response. *J Pediatr Surg*. 28:1301-6.