CREATIVE BIOMART®
Assay Kit

Glutathione Assay Kit

Product Information

Cat.No. Kit-0393

Product Overview

GSH assay kit utilizes a carefully optimized enzymatic recycling method, using glutathione reductase for the quantification of GSH. The sulfhydryl group of GSH reacts with DTNB (5,5''-dithio-bis-2-nitrobenzoic acid, Ellman''s reagent) and produces a yellow colored 5-thio-2-nitrobenzoic acid (TNB). The mixed disulfide, GSTNB (between GSH and TNB) that is concomitantly produced, is reduced by glutathione reductase to recycle the GSH and produce more TNB. The rate of TNB production is directly proportional to this recycling reaction which in turn is directly proportional to the concentration of GSH in the sample. Measurement of the absorbance of TNB at 405 or 412 nm provides an accurate estimation of GSH in the sample. GSH is easily oxidized to the disulfide dimer GSSG. Because of the use of glutathione reductase in the GSH assay kit, both GSH and GSSG are measured and the assay reflects total glutathione. The kit can also be used to measure only GSSG by following an alternative protocol. GSH measurement can be done in plasma, tissue samples, and cultured cells using this kit. Nearly all samples require deproteination before assay.

Description

Glutathione (GSH) is a tripeptide (γ-glutamylcysteinylglycine) widely distributed in both plants and animals. GSH serves as a nucleophilic co-substrate to glutathione transferases in the detoxification of xenobiotics and is an essential electron donor to glutathione peroxidases in the reduction of hydroperoxides. GSH is also involved in amino acid transport and maintenance of protein sulfhydryl reduction status. Concentration of GSH ranges from a few micromolar in plasma to several millimolar in tissues such as liver.

Usage

Please read these instructions carefully before beginning this assay.For research use only. Not for human or diagnostic use.

Storage

Stability: 1 year;Storage: 4°C;This kit will perform as specified if stored as directed at 4°C and used before the expiration date indicated on the outside of the box.

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Kit Components

GSH MES Buffer (2X): 1 vial/60 ml; 1 vial/60 ml;GSSG Standard: 1 vial/2 ml; 2 vials/2 ml;GSH Co-Factor Mixture: 1 vial; 5 vials;GSH Enzyme Mixture: 1 vial/0.2 ml; 5 vials/0.2 ml;GSH DTNB: 4 vials; 6 vials;96-Well Solid Plate (Colorimetric Assay): 1 plate; 5 plates;96-Well Cover Sheet: 1 cover; 5 covers

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