CREATIVE BIOMART®
Assay Kit

GSH/GSSG Ratio Fluorometric Assay Kit

Product Information

Cat.No. Kit-0396

Product Overview

GSH/GSSG Ratio Assay Kit provides an ultrasensitive assay to quantitate GSH in the sample.

Description

Glutathione is a tripeptide that contains L-cysteine, L-glutamic acid and glycine. It is the smallest intracellular protein thiol molecule in the cells, which prevents cell damage caused by reactive oxygen species such as free radicals and peroxides. Glutathione exists in reduced (GSH) and oxidized (GSSG) states. Reduced glutathione (GSH) is a major tissue antioxidant that provides reducing equivalents for the glutathione peroxidase (GPx) catalyzed reduction of lipid hydroperoxides to their corresponding alcohols and hydrogen peroxide to water. In the GPx catalyzed reaction, the formation of a disulfide bond between two GSH molecules generates oxidized glutathione (GSSG). The enzyme glutathione reductase (GR) recycles GSSG to GSH with the simultaneous oxidation of β-nicotinamide adenine dinucleotide phosphate (β-NADPH2). In healthy cells, more than 90% of the total glutathione pool is in the reduced form (GSH). When cells are exposed to increased levels of oxidative stress, GSSG accumulates and the ratio of GSSG to GSH increases.An increased ratio of GSSG-to-GSH is an indication of oxidative stress. The monitoring of reduced and oxidized GSH in biological samples is essential for evaluating the redox and detoxification status of the cells and tissues against oxidative and free radicals mediated cell injury.

Usage

For research use only (RUO)

Storage

Keep Component A in freezer (-20°C) and avoid exposure to light; Component C, E, F at -20°C; Component B, D and G at 4°C. All components are stable for 6 months after receipt if stored properly.Shelf Life: All reagents are stable for 6 month after receipt when stored properly at the recommended conditions.

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Kit Components

Component A: Thiolite Green 1 vialComponent B: Assay Buffer 25 mLComponent C: GSH Standard 62 μgComponent D: DMSO 100 μLComponent E: GSSG Probe (lyophilized powder) 1 bottleComponent F: GSSG Standard 124 μgComponent G: Cell/Tissue Lysis Buffer 10 mL

Detection method Fluorometric

Compatible Sample Types

Cell Culture

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