

Intracellular glutathione (GSH) Detection Assay Kit ab112132

15 References **画像数 1**

製品の概要

製品名	Intracellular glutathione (GSH) Detection Assay Kit
検出方法	Fluorescent
サンプルの種類	Adherent cells, Suspension cells
製品の概要	<p>Intracellular glutathione (GSH) Detection Assay Kit (ab112132) uses our proprietary non-fluorescent Green Dye, which becomes strongly fluorescent upon reacting with thiol (including GSH in cells). In normal cells, the Green Dye is accumulated primarily in cytosol, but it is partially translocated to mitochondria in apoptotic cells while Green Dye staining intensity is decreased. Cells stained with Green Dye can be visualized with a flow cytometer at Ex/Em = 490/520 nm (FL1 channel).</p> <p>This kit has been designed to detect apoptosis in cells by measuring the decrease in reduced glutathione (GSH), which is an early hallmark in the progression of cell death in response to different apoptotic stimuli in many cells.</p> <p>This kit can be used together with other reagents, such as 7-AAD for multi-parametric study of cell viability and apoptosis. The kit is optimized for screening apoptosis activators and inhibitors with a flow cytometer.</p>

We do not recommend using this kit in a microplate. A more suitable option might be [ab65322](#).

Visit our [FAQs page](#) for tips and troubleshooting.

特記事項

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.

試験プラットフォーム

Flow cytometer

製品の特性

保存方法

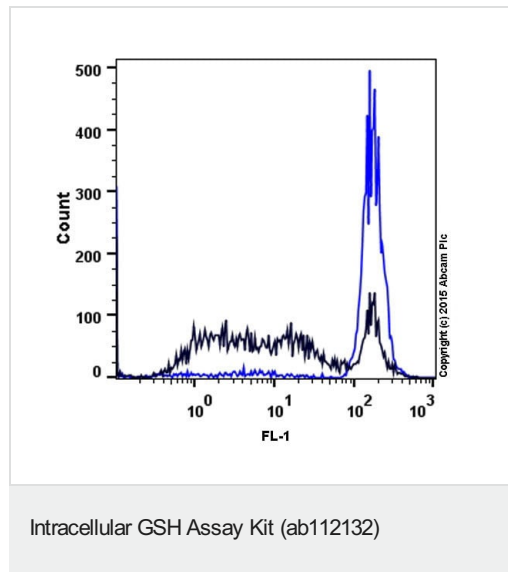
Store at -20°C. Please refer to protocols.

内容	100 tests
Assay Buffer	1 x 100ml
DMSO	1 x 500µl
Thiol Green Indicator	1 vial

関連性

Glutathione is a small peptide composed of three amino acids: cysteine, glutamic acid, and glycine and is present in tissues in concentrations as high as one millimolar. Glutathione is the principal intracellular low-molecular-weight thiol that plays a critical role in the cellular defense against oxidative and nitrosative stress in mammalian cells. Diminished glutathione levels have been observed in the early stages of apoptosis.

画像



Decrease in the fluorescence intensity of the Thiol Green Dye correlates with the addition of camptothecin in Jurkat cells. Jurkat cells were mock induced with 0.25% DMSO (blue line) and with 12.5 µM camptothecin (black line) in a 37°C, 5% CO₂ incubator for 24 hours and then dye loaded with ab112132 Green Dye for 30 minutes. The fluorescence intensity of Green Dye was measured with a flow cytometer using the FL1 channel.

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