CREATIVE BIOMART®
Assay Kit

Glucose-6-Phosphate Dehydrogenase Inhibitor Screening Kit

Product Information

Cat.No. Kit-2119

Product Overview

In the G6PDH assay kit, Glucose-6-Phosphate is oxidized by glucose-6- phosphate dehydrogenase to generate 6-Phosphoglucono-δ-Lactone and form NADH, which reacts with a probe to produce a signal at OD 450 nm. In the presence of G6PDH inhibitor, these reactions are impeded, thus decreasing the rate and/or extent of generation of G6PDHdependent absorbance. Thus, this kit provides a sensitive, quick, and easy method for screening potential inhibitors of G6PDH. G6PDH Inhibitor Control is included to compare the efficacy of test inhibitors. The assay is high-throughput adaptable and can be performed in less than 30 min.

Size

100 assays

Description

Glucose-6-Phosphate Dehydrogenase (G6PDH) is a cytosolic enzyme which plays a key role in the Pentose Phosphate Pathway (PPP). The PPP pathway supplies reducing energy to cells (such as erythrocytes) by maintaining the level of the co-enzyme nicotinamide adenine dinucleotide phosphate (NADPH). The NADPH in turn maintains the level of glutathione in these cells that helps protect the red blood cells against oxidative damage. Recently studies have found increased G6PDH activity in various human tumors and knockdown of this G6PDH decreases cell proliferation and enhances apoptosis in vitro. Therefore, targeting this key enzyme is essential for developing novel therapeutic approach for treatment/cure of cancer.

Applications

Screening/characterizing/studying potential inhibitors of Glucose-6-Phosphate Dehydrogenase

Storage

Store kit at -20°C, protected from light. Briefly centrifuge small vials prior to opening. Read the entire protocol before performing the assay.G6PDH Assay Buffer: Bring to room temperature before use. Store at 4°C or -20°C.G6PDH Developer: Reconstitute with 220 µl dH2O.Pipette up and down to

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dissolve completely. Store at -20°C. Use within two months. Keep on ice while in use.G6PDH Substrate: Reconstitute with 220 µl G6PDH Assay Buffer. Store at -20°C. Avoid freeze/thaw. Keep on ice while in use. Use within two months.G6PDH Enzyme: Reconstitute with 100 µl G6PDH Assay Buffer, mix thoroughly. Aliquot and store at -70°C. Avoid freeze/thaw. Keep on ice while in use. Use within two months.G6PDH Inhibitor Control: Reconstitute with 200 µl dH2O. Aliquot and store at -20°C. Avoid freeze/thaw. Keep on ice while in use. Use within two months.

Kit Components

G6PDH Assay Buffer: 25 mlG6PDH Substrate: 1 vialG6PDH Developer: 1 vialG6PDH Enzyme: 1 vialG6PDH Inhibitor Control: 1 vial

Detection method Absorbance (OD = 450 nm)

Compatible Sample Types

Small molecules

Features & Benefits

• Simple and sensitive assay.• Fast protocol - can be perforemed in 30 min.• HTP adaptable.

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