CREATIVE BIOMART®
Assay Kit

Glucose-1-Phosphate Colorimetric Assay Kit

Product Information

Cat.No. Kit-0347

Product Overview

Glucose-1-Phosphate Assay Kit (Colorimetric) is a quantitative colormetric determination of glucose-1-phosphate at 450 nm.

Description

Glucose-1-phosphate (G1P) is an important carbohydrate intermediate in glucose metabolism and storage. In response to hormonal or neural signals, glycogenolysis occurs in liver and muscle tissues where Glucose-1-phosphate is released as the rate-limiting step in glycogen breakdown. Glucose-1-phosphate is subsequently converted to Glucose-6-phosphate by phosphoglucomutase and enters glycolysis. In glycogen synthesis, glucose is transferred to glycogen through the actions of Phosphoglucose isomerase (G6P → G1P), UDPG-pyrophosphorylase (G1P → UDP-glucose) and glycogen synthase (UDP-glucose + glycogen[n] → UDP + glycogen[n+1]). Glucose-1- phosphate is found in virtually all organisms from bacteria to higher plants and animals. Measurement of intracellular G1P levels is crucial for analyzing the carbohydrate metabolic pathways and their kinetic properties. In Glucose-1-phosphate assay, G1P is converted to glucose-6-phosphate by phosphoglucomutase in the presence of Glucose 1,6-biphosphate; glucose-6-phosphate is subsequently oxidized by glucose-6-phosphate dehydrogenase to form NADH which reduces a colorless probe to a colored product with strong absorbance at 450 nm. Glucose-1-Phosphate Assay Kit (Colorimetric) is rapid, sensitive & easy to use & can detect 1μM to 10 mM G1P. This G1P assay kit can be used for a variety of sample types.

Applications

Measurement of Glucose-1-Phosphate in various tissues/cells.Analysis of glucose metabolism and cell signaling in various cells.Screening anti-diabetic drugs.

Target Species

Mammals

Usage

Tel: 1-631-559-9269 1-516-512-3133
Email:info@creative-biomart.org
Fax:1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

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For research use only (RUO)

Storage

Store kit at -20°C, protected from light. Warm all Buffers to room temperature before use. Briefly centrifuge all small vials prior to opening.

Kit Components

G1P Assay Buffer 27 mLG1P Enzyme Mix (Lyophilized) 1 vialG1P Developer (Lyophilized) 1 vialG1P Substrate Mix (Lyophilized) 1 vialG1P Standard (Lyophilized) 1 vial

Detection method Colorimetric

Compatible Sample Types

Animal tissues: Liver, muscle and heart etc.Cell culture: Adherent or suspension cells.

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