

## Glucose-1-Phosphate Colorimetric Assay Kit

### Product Information

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#### Cat.No.

Kit-0347

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#### Product Overview

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

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#### 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 ( $G6P \rightarrow G1P$ ), UDPG-pyrophosphorylase ( $G1P \rightarrow UDP\text{-glucose}$ ) and glycogen synthase ( $UDP\text{-glucose} + \text{glycogen}[n] \rightarrow UDP + \text{glycogen}[n+1]$ ). 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  $1\mu\text{M}$  to  $10\text{ mM}$  G1P. This G1P assay kit can be used for a variety of sample types.

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#### Applications

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

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#### Target Species

Mammals

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## Glucose-1-Phosphate Colorimetric Assay Kit

### Usage

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For research use only (RUO)

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### Storage

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

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### Kit Components

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

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**Detection method** Colorimetric

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### Compatible Sample Types

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

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