



Ver.251201

# Glucose Content Assay Kit

BC12001-01(60 Tests)

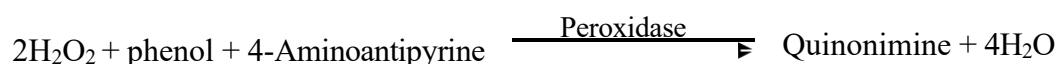
**FOR RESEARCH USE ONLY, DO NOT USE IT IN CLINICAL DIAGNOSIS**

## Product Description

Glucose is a major carbohydrate present in the blood and serves as a primary source of energy. It is usually obtained from ingested starch and sugar. The glucose concentration is normally maintained at a constant level. Excessive glucose is stored as inactive glycogen mainly in the liver and little in the muscles. Wavelength of absorbance 505 (490-550 nm).

Elevated blood glucose levels are found in diabetes mellitus, hyperthyroidism, hyperadrenalism and certain liver diseases. Decreased levels are found in Insulinoma, hypothyroidism, hypopituitarism.

Enzymatic colorimetric determination of glucose according to the following reaction.



## Kit components

Reagent	Product code	Storage
Reagent R1	50mL	2-8°C
Standard (Glucose: 100mg/dL)	500μL	2-8°C
Extraction Reagent	60 mL	2-8°C

## Open Vial Stability

Once opened, the reagent is stable up to 4 weeks at 2-8°C, if contamination is avoided.

## Reagent Deterioration

Turbidity or precipitation in any kit component indicates deterioration and the component must be discarded.

## Reagent Preparation

Glucose Reagent, Standard and Extraction reagent are ready to use.

## Precaution

- To avoid contamination, use clean laboratory wares use clean, dry disposable pipette tips for dispensing. Close reagent bottles immediately after use.
- Avoid direct exposure of reagent to light. Do not blow into the reagent bottles.

## Reagents and Equipment Required but Not Provided

Analytical balance, mortar/homogenizer, low temperature centrifuge, water bath, adjustable pipette, spectrophotometer, 1 mL glass cuvette and distilled water

# Operation Procedures

## Sample Preparation

### 1. Bacteria or cells

Harvest the cells and wash twice with PBS. Ideal to use 5 million cells for the assay. Add 1mL Extraction Reagent to 5 million cells and ultrasonicate (200W, work time 3 second / interval 10 second repeat for 30 times) for complete lysis. Perform ultrasonication while keeping the cells in ice bath. Centrifuge at 8000 rpm, 4°C for 10 minutes and collect the supernatant. The supernatant should be kept on ice.

Note: Ideal proportion of Cells/Bacteria to Extraction Reagent is 1:5-10.

### 2. Tissue

Prepare 10% tissue homogenate by adding 1mL Extraction Reagent to 0.1g tissue. Grind completely to make a homogenate. Centrifuge at 8000 rpm, 4°C for 10 minutes and collect the supernatant.

### 3. Serum or Plasma

Directly use for the assay.

## Interferences

No interference for

Bilirubin up to 20 mg/dL

Haemoglobin up to 1000 mg/dL

## Unit Conversion

Traditional Unit	SI Unit	Conversion from Traditional to SI
mg / dL	mmol/L	$\times 0.055$

## Procedure Notes

Reagent	Blank tube	Standard tube	Test tube
Glucose Reagent	1000 $\mu$ L	1000 $\mu$ L	1000 $\mu$ L
Standard	-	10 $\mu$ L	-
Sample / control	-	-	10 $\mu$ L

Mix & incubate for 10 minutes at 37°C. Read the absorbance at 505 (490-550 nm) of standard and sample against reagent blank.

## Calculation

Glucose Concentration (mg/dL) =  $\frac{\text{Absorbance of sample}}{\text{Absorbance of standard}} \times \text{standard concentration}$

## Performance

Linearity: upto 600 mg/dL.

Note: If the concentration is greater than linearity (600 mg/dL) dilute the sample with normal saline and repeat the assay. Multiply the result with dilution factor.

Sensitivity: Lower detection Limit is 1.0 mg/dL