(FOR RESEARCH USE ONLY. DO NOT USE IT IN CLINICAL DIAGNOSIS!)

Glucose (Glu) Assay Kit

Catalog No.: BC00034

Size: 100T

Please read the instructions carefully before use. If you have any questions or need further help during experiment, please don't hesitate to contact us through the following methods:

✉ Email (Sale) order@enkilife.com

✉ Email (Techsupport) techsupport@enkilife.com

☎Tel: 0086-27-87002838

Website: www.enkilife.com

Shelf life: Please refer to the label on the outer package.

Techsupport: In order to provide you with better service, please inform us the lot number on the label of the outer package.

Basic Information

Product Name	Glucose (Glu) Assay Kit
Detection Method	Colorimetric
Sample Type	Serum, plasma, whole blood
Assay Type	Quantitative
Detection Instrument	Microplate reader (500-510 nm, optimal detection wavelength 505 nm)

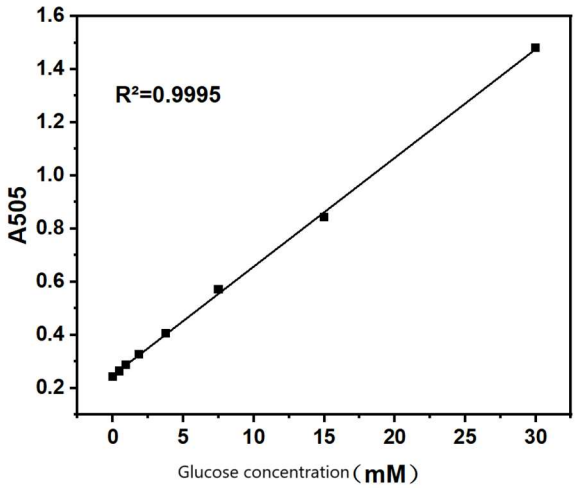
Product Introduction

Glucose is one of the main energy sources for the human body, and abnormal changes in its concentration can provide information about blood sugar control and metabolic status.

Principle

Glucose oxidase (GOD, EC 1.1.3.4) can catalyze the oxidation of glucose into gluconic acid and produce hydrogen peroxide. In the presence of chromogenic oxygen acceptors, peroxidase catalyzes hydrogen peroxide to oxidize pigment sources to produce colored substances.

The figure below shows the standard curve of glucose determination using this kit:



Components

No.	Components	Size (100T)	Storage
Reagent 1	Phenol Solution	15 mL	-20℃, protect from light, store at 2-8°C after opening.
Reagent 2	Enzyme Solution	15 mL	-20℃, protect from light, store at 2-8°C after opening.
Reagent 3	30 mmol/L Glucose Standard	1 mL	-20℃, store at 2-8°C after opening.
Consumable 1	Microplate	1 plate	RT
Consumable 2	Plate Sealer	2 pieces	RT

Storage

The unopened kit can be stored at -20℃ for 12 months, and after opening, it can be stored at 2-8℃ for 6 months.

Preparation

- **Sample handling**

1. Serum and plasma samples: can be measured directly.
2. Whole blood sample: Take fresh blood and add it to a tube containing anticoagulant (heparin is used as anticoagulant, heparin concentration is: 10-12.5 IU/mL blood), invert and mix, take 0.1 mL and add 0.4 mL double distilled water, mix thoroughly for 1 min, let stand for 15 min, and the prepared 5-fold hemolysate should be clear and transparent when observed under light for testing.

- **Preparation of the kit**

1. Before testing, equilibrate the reagents in the kit to room temperature.
2. Prepare different concentrations of standards by diluting Reagent 3 with double-distilled water using the halving dilution method, to concentrations such as 30, 15, 7.5, 3.75, 1.825, 0.9375, 0 (blank well) mmol/L.
3. Prepare the enzyme working solution by mixing Reagent 1 and Reagent 2 in a volume ratio of 1:1, prepare before use, and store at 2-8°C away from light for 24 h.

Operation process

1. Standard wells: Take 2.5 μL of different concentrations of standard solution and add them to the corresponding standard wells. Sample wells: Take 2.5 μL of sample and add them to the corresponding sample wells.
2. Add 250 μL of color developer working solution to the standard and sample wells from step (1).
3. Oscillate on a microplate reader for 10 s, let stand at 37 °C for 10 min, and measure the OD value of each well at 505 nm.

	Standard well	Measurement well
Different concentrations of standard solutions (μL)	2.5	--
Sample to be tested (μL)	--	2.5
Color developer working solution (μL)	250	250
Oscillate on a microplate reader for 10 s, let stand at 37 °C for 10 min, and measure the OD value of each well at 505 nm.		

Calculation

Standard fitting curve: $y = ax + b$

Normal serum (plasma) sample, glucose (Glu) concentration calculation formula: Glu content (mmol/L) = (ΔA505 - b) ÷ a × f

For whole blood and hemolyzed samples, the concentration calculation formula when setting the control is: Glu content (mmol/L) = (ΔA' - b) ÷ a × f

Annotation:

y: OD value of standard well - OD value of blank well (OD value when the concentration of standard is 0)

x: concentration corresponding to the absorbance

a: slope of the curve

b: intercept of the curve

ΔA 505: Sample OD value - blank OD value (OD value when the standard concentration is 0)

ΔA': sample measurement OD value - sample control OD value

f: dilution factor of the sample before adding it to the detection system

Notes

1. The optimal detection wavelength of the microplate reader is 505 nm, and detection can be performed in the range of 500 nm-510 nm.
2. This product is intended for scientific research use only by professionals and must not be used for clinical diagnosis or treatment, in food or drugs, or stored in ordinary residences.