Glucose Content Kit (Microplate Method)

Cat. No. KITG-142 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Glucose ($C_6H_{12}O_6$, FW: 180.16) is a major source of ATP energy. This kit provides a quantitative, rapid, simple, and sensitive method for detecting glucose content.
Description	Glucose is specifically oxidized to produce a pink-red product that reacts with the chromogenic reagent. The product has a maximum absorption peak at 520 nm, enabling determination of glucose content.
Form	Size 96 samples Kit Components • Reagent I: liquid, 2.2 mL × 1 vial; store at 4 °C • Reagent II A: liquid, 14 mL × 1 bottle; store at 4 °C • Reagent II B: liquid, 7 mL × 1 bottle; store at 4 °C • Standard: powder, mg × 1 vial; store at room temperature under dry conditions
Applications	Applications Quantitative determination of glucose content in tissue samples, cell samples, and liquid samples. Detection Method GOPOD oxidase method; microplate colorimetric detection at 520 nm. Compatible Sample Types Tissue samples; cell samples; liquid samples.
Notes	Notes Before the formal assay, select 2 samples for a pre-assay to understand the sample status and the experimental workflow, and to avoid wasting samples and reagents. The standard powder should be stored dry both before and after opening. Scientific Background Glucose ($C_6H_{12}O_6$, FW: 180.16) is a major source of ATP energy. Technical Notes Before the formal assay, select 2 samples for a pre-assay to understand the sample status and the experimental workflow, and to avoid wasting samples and reagents. Before the assay, select 2 samples to

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

	determine the dilution factor D appropriate for the samples to be tested; for fruit samples, dilute 5–10 times. This procedure is suitable for most routine sample testing. Experimental conditions may be adjusted appropriately according to the actual sample status; for special types of samples, technical support can provide exclusive optimization recommendations. Features & Benefits Quantitative, rapid, simple, and sensitive detection. Glucose is specifically oxidized to produce a pink-red chromogenic product with a maximum absorption peak at 520 nm. Warning For research use only. Not for use in diagnostic or therapeutic procedures.
Storage	Storage Reagent I: 4 °C Reagent II A: 4 °C Reagent II B: 4 °C Standard: room temperature, dry Reagent II mix: protect from light and use within one week after preparation Opened standard powder: store and use under dry conditions Stability After preparation, Reagent II mix should be protected from light and used within one week. The standard powder should be stored dry both before and after opening.
Concentration	Concentration Prepared glucose standard solution: 1 mg/mL Dilutions Determine the appropriate sample dilution factor D before the assay. For fruit samples, dilute 5–10 times.
Reconstitution	Before use, accurately weigh 2 mg of glucose standard powder into a new EP tube, add 2 mL of distilled water, and dissolve fully to obtain a 1 mg/mL standard solution. The standard powder should be stored dry both before and after opening.
Reaction conditions	Preparation Preparation of Reagent II mix: Before use, mix Reagent II A and Reagent II B at a ratio of 2:1 (Reagent II A:Reagent II B) to prepare the Reagent II mix. Prepare only the amount needed, protect it from light, and use it within one week. Assay Protocol 1. Sample preparation • Tissue samples: Weigh 0.1 g of tissue (for samples with sufficient moisture, approximately 0.2 g is recommended), add 1 mL of distilled water, and grind. Transfer the entire crude extract to an EP tube and

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centrifuge at 12,000 rpm for 10 min at room temperature. Use the supernatant for the assay. • Cell samples: Collect the cells in a centrifuge tube, centrifuge, and discard the supernatant. Add approximately 5 million cells to 1 mL of distilled water, PBS, or physiological saline. Sonicate on ice at 200 W using 3 s pulses with 10 s intervals, repeated 30 cycles. Centrifuge at 12,000 rpm for 10 min at 4 °C, collect the supernatant, and keep it on ice for testing. • Note: If the sample amount is increased, extraction may be performed at a cell count (10^4 cells) to extraction liquid (mL) ratio of 500–1000:1. • Liquid samples: Clear liquid samples can be tested directly. Turbid samples should be centrifuged, and the supernatant should be used for the assay. 2. Instrument setup Preheat the microplate reader for 30 min, set the temperature to 25 °C, and set the wavelength to 520 nm. 3. Dilution Before the assay, select 2 samples to determine the appropriate dilution factor D. For fruit samples, dilute 5–10 times. 4. Reaction setup in a 96-well plate • Assay well: 10 μL sample + 20 μL Reagent I + 170 μL Reagent II mix • Blank well (prepare only once): 10 μL distilled water + 20 μL Reagent I + 170 μL Reagent II mix • Standard well (prepare only once): 10 μL standard solution + 20 μL Reagent I + 170 μL Reagent II mix Mix thoroughly, incubate at 37 °C for 30 min protected from light, and read the absorbance at 520 nm. ΔA glucose = A assay − A blank. Assay time Microplate reader preheating: 30 min. Color reaction: 30 min at 37 °C in the dark. Analysis 1. Calculation by mass Glucose content (mg/g fresh weight) = (C standard × V1) × ΔA glucose ÷ (A standard − A blank) ÷ (W × V1 ÷ V) × D = ΔA glucose ÷ (A standard − A blank) ÷ W × D 2. Calculation by cell number Glucose content (mg/10^4 cells) = (C standard × V1) × ΔA glucose ÷ (A standard − A blank) ÷ (500 × V1 ÷ V) × D = ΔA glucose ÷ (A standard − A blank) ÷ 500 × D 3. Calculation by volume Glucose content (mg/mL) = (C standard × V1) × ΔA glucose ÷ (A standard − A blank) ÷ V1 × D = ΔA glucose ÷ (A standard − A blank) × D Definitions: C standard: concentration of the glucose standard, 1 mg/mL D: dilution factor; use 1 if the sample is not diluted V: volume of extraction liquid added, 1 mL V1: volume of sample added, 0.01 mL W: fresh weight of the sample, g 500: cell count, in units of 10^4 cells

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Usage	Usage For research use only. Not for use in diagnostic or therapeutic procedures. Materials Required but Not Supplied • Microplate reader • 96-well plate • Balance • Pipettes • Mortar • Centrifuge • Distilled water

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