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

Sucrose Assay Kit

Catalog No.: BC00043

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

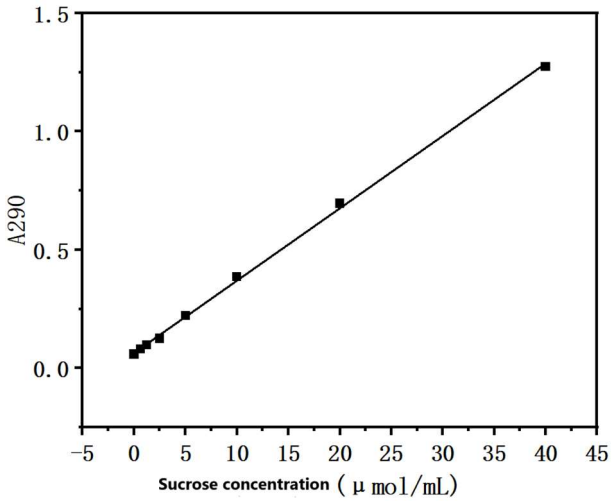
Product Name	Sucrose Assay Kit
Detection Method	Colorimetric
Sample Type	Plant tissue samples
Assay Type	Quantitative
Detection Instrument	UV spectrophotometer (290 nm)

Product Introduction

Sucrose is almost universally found in leaves, flowers, stems, seeds and fruits of the plant kingdom. It is particularly abundant in sugar cane, beets and maple sap.

Principle

Sucrose in plant tissues is hydrolyzed into glucose and fructose by heating in a boiling water bath under acidic conditions. Fructose loses water under acidic conditions to obtain 5-hydroxymethylfurfural. Glucose must first be isomerized into a ketose structure, and then loses water to obtain 5-hydroxymethylfurfural, but the rate of glucose isomerization to ketose is very slow. 5-Hydroxymethylfurfural has a maximum absorption peak at 290nm. By measuring its OD value, the sucrose content is calculated. The figure below shows the standard curve for the determination of sucrose by this kit.



Components

Serial number	Components	Size(100T)	Storage
Reagent 1	Hydrolyzate	60 mL × 2 bottles	-20℃, avoid light, store at 2-8℃ after opening

Reagent 2	100 μmol/mL Sucrose Standard	1 mL × 1 tube	-20℃, avoid light, store at 2-8℃ after opening

Storage

The unopened test kit can be stored at -20℃ for 12 months. After opening, it can be stored at 2-8℃ away from light for 6 months.

Experimental Preparation

- Sample processing

Accurately weigh the tissue and add 9 volumes of phosphate buffer (0.1 mol/L pH 7.4) or normal saline at a ratio of weight (g): volume (mL) = 1:9 to make a 10% tissue homogenate. Centrifuge at 3500 rpm for 15 minutes and take the supernatant for testing.

- Preparation of the assay kit

1. Before testing, the reagents in the kit were equilibrated to room temperature.
2. Preparation of 20 μmol/mL sucrose standard:

Mix reagent 2 and double distilled water in a volume ratio of 1:4. Prepare it before use and store it at 2-8℃ for 7 days.

Operation process

	Blank tube	Standard tube	Determination tube
Double Distilled Water (mL)	0.015	--	--
20μmol/mL Sucrose Standard solution (mL)	--	0.015	--
Sample to be tested (mL)	--	--	0.015
Hydrolyzate (mL)	1	1	1
Mix thoroughly, place in a 100℃ water bath for 8 minutes, cool with running water, and measure the OD value of each tube at 290nm using a 1cm optical path quartz cuvette and zero with double distilled water.			

Result calculation

Sucrose content (μmol/g tissue) = $\triangle A_1 / \triangle A_2 \times c \times v \div w$

Notes:

△ A1: Determine OD value - blank OD value

△ A2: Standard OD value - blank OD value
c: Standard concentration (20 μmol/mL)
w: sample mass (g)
v: total volume of homogenate (ml)

Notes:

1. Strictly control the water bath temperature to above 95°C.
2. **Glass test tubes must be used.**
3. The reagents must be stored strictly according to the storage conditions in the above table. Reagents in different test kits cannot be mixed.
4. For reagents with smaller volumes, please centrifuge them before use to avoid insufficient amounts of reagents.The detection range of the kit is not equivalent to the concentration range of the analyte in the sample. If the concentration of the analyte in the sample is too high or too low, please dilute or concentrate the sample appropriately.