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

Plant Soluble Sugar Assay Kit

Catalog No.: BC00039

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	Plant Soluble Sugar Assay Kit
Detection Method	Colorimetric
Sample Type	Plant tissue,etc
Assay Type	Quantitative
Detection Instrument	Microplate reader (620 nm)
Range	0.1-0.8mg/mL
Sensitivity	0.003mg/mL

Product Introduction

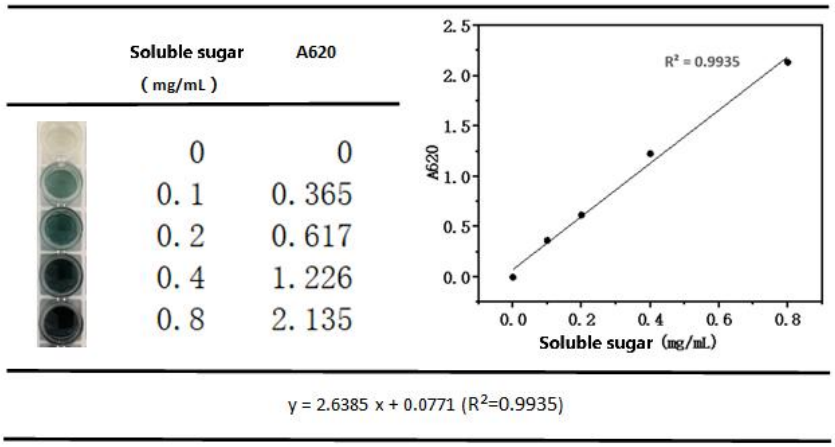
Carbohydrates are one of the important components of plants and are also the main raw material and storage material for metabolism.

Product Features

● This kit is used for the determination of the content of soluble monosaccharides, oligosaccharides and polysaccharides. It has the advantages of high sensitivity, convenience and suitability for the determination of trace samples.

Detection principle

Sugars and anthrone react to form colored substances, which have a maximum absorption peak at 620 nm. The soluble sugar content can be determined by measuring the absorbance value. The following standard curve is for reference only:



Soluble sugar (mg/mL)	A620
0	0
0.1	0.365
0.2	0.617
0.4	1.226
0.8	2.135

$y = 2.6385 x + 0.0771$ (R^2=0.9935)

Components

Serial number	Components	Size(100T)	Storage
Reagent 1	Substrate	2 bottles	2-8 ℃ away from light after opening .
Reagent 2	Standards	1 mL	2-8 ℃ away from light after opening .
Consumables 1	Microplate(96 wells)	1 plate	RT
Consumables 2	Plate Sealer	2 pieces	RT

Storage

The unopened kit can be stored at -20℃ for 12 months.

Experimential Preparation

- Sample processing

1. Tissue samples: homogenize plant tissue samples (g) with double distilled water (mL) at a ratio of 1:9, centrifuge at 10,000 × g for 10 min at 4°C, and take the supernatant for later use.
2. Sample dilution : Before the formal test, it is necessary to select 2-3 samples with large expected differences and dilute them into different concentrations for preliminary experiments. According to the results of the preliminary experiments, combined with the detection range of this kit: 0.1-0.8mg/mL, please refer to the following table for dilution (for reference only)

Sample	Dilution multiple	sample	Dilution multiple
10% mango flesh	150-250	10% red dates	150-250
10% Red Grapes	150-200	10% glutinous corn kernels	100-200
10% Apple	100-150	10% banana	150-200
10% Cucumber	20-50	10% tomatoes	30-60
10% Shiitake mushrooms	No dilution	10% carrots	40-60
10% edamame	1-10	10% Black Plum	50-100

Note: The diluent is double distilled water.

- Preparation of the assay kit

1. Before testing, the reagents in the kit should be balanced to room temperature , and **concentrated sulfuric acid and ethyl acetate should be prepared by yourself** .
2. Dilution of standards of different concentrations: dilute reagent 2 in half with double distilled water to 0.8, 0.4, 0.2, 0.1, 0 (blank well) mgl/mL (the highest concentration of the gradient dilution can be appropriately reduced according to the equipment in your own laboratory and the most suitable standard curve can be selected).
3. Preparation of working solution: Dissolve one bottle of reagent A completely with 6 mL of ethyl acetate (heat in a 60°C water bath for 1-2 min until completely dissolved). Store the unused portion at 2-8°C in the dark for 7 days.

Operation process

1. Blank tube: add 0.2 mL of double distilled water into a 2 mL EP tube;
2. Standard tube: add 0.2 mL of 0.1 mg/mL standard into a 2 mL EP tube;
3. Assay tube: add 0.2 mL of the supernatant of the sample to be tested into a 2 mL EP tube;
4. Add 0.1 mL of reagent 1 working solution and 1 mL of concentrated sulfuric acid to each EP tube in step (1).
5. Mix thoroughly and place in a 95 ~ 100°C boiling water bath for 7 min (the tube cap should be tightly closed or sealed in the water bath);
6. Take out and cool immediately with running water;
7. Take 200 μL of the reaction solution in each EP tube in step (3) and add it to the corresponding enzyme-labeled well;

The OD value of each well was measured at a wavelength of 620 nm using a microplate reader.

	Standard well	**Assay well**
Standard solutions of different concentrations (mL)	0.2	--
Sample to be tested (mL)	--	0.2
Working solution (mL)	0.1	0.1
Concentrated sulfuric acid (mL)	1.0	1.0
Mix thoroughly, place in a 95 ~100°C boiling water bath for 7 min (the tube lid must be tightly closed in the water bath), and take out to cool.		
Take 200 μL of the reaction solution in each EP tube and add it to the corresponding enzyme-labeled well, and measure the OD value of each well at a wavelength of 620 nm on a microplate reader.		

Result calculation

Standard fitting curve: y = ax + b
Calculation formula for soluble sugar content in plants: Soluble sugar content (mg/mL) = (ΔA620- 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 620: Sample OD value-blank OD value (OD value when the standard concentration is 0)
f: dilution factor of the sample before adding it to the detection system

Notes

1.The kit is for Research Use Only. If it is used for clinical diagnosis or any other purpose,our company will not be responsible for any problems arising therefrom and will not bear any legal liability.
2.Please read the instructions carefully and adjust the instrument before the experiment, and conduct the experiment strictly in accordance with the instructions.
3.Please wear lab coats and latex gloves for protection during the experiment.
4.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.
5.If the sample being tested is not among the sample types listed in the instructions, it is recommended to conduct a preliminary experiment to verify the effectiveness of the test.
6.The final experimental results are closely related to the effectiveness of the reagents, the relevant operations of the experimenter, the experimental environment and other factors. Our company is only responsible for the kit itself, not for the sample consumption caused by the use of the kit. Please fully consider the possible usage of the sample before use and reserve sufficient samples.