



PRODUCT INFORMATION & MANUAL

Fructose Assay Kit (Colorimetric) *NBP3-25804*

For research use only.
Not for diagnostic or therapeutic
procedures.

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Novus kits are guaranteed for 6 months from date of receipt

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

Fructose Colorimetric Assay Kit

Catalog No: NBP3-25804

Method: Colorimetric method

Specification: 50Assays (Can detect 48 samples without duplication)

Measuring instrument: Spectrophotometer

Sensitivity: 0.002mg/mL

Detection range: 0.002-2.5mg/mL

This manual must be read attentively and completely before using this product.

If you have any problem, please contact our Technical Service Center for help.

Please kindly provide us the lot number (on the outside of the box) of the kit for more efficient service.

Application

This kit can be used for detection of fructose content in samples, such as juice, honey, seminal plasma, tissues, etc.

Detection significance

Fructose mainly derives from the secretion of seminal vesicle, which is the primary sugar of seminal fluid and one of the important nutritious components of sperm. There is a prominent correlation between fructose content in semen and sperm activity. The fructose content in semen can influence the sperm activity directly. And it is an important factor to measure whether the activity is good or bad. Moreover, fructose is the sweetest in natural sugar and equal to 1.8 times of sucrose. The composition of saccharides is an important indicator to measure the quality of juice and honey. The establishment of determination method has a great significance for controlling the quality of honey and detecting fructose content in juice.

Detection principle

The product of fructose and matrix solution has a maximum absorption peak at 285 nm. The fructose content can be calculated indirectly by measuring the OD value at 285 nm.

Kit components

	Components	Specification	Storage
Reagent 1	Matrix Solution	75 mL × 2 vials	2-8℃
Reagent 2	D-fructose Standard	Powder × 3 vials	2-8℃
Preparation of 1 mg/mL fructose standard solution: dissolve a vial of powder with 10 mL double distilled water to prepare 1 mg/mL fructose standard solution.			

Experimental instruments

Test tube, Micropipettor, Vortex mixer, 100℃ water bath, Spectrophotometer (285 nm)

The preparation of sample

1. **Juice:** Extract fresh fruit juice, then centrifuge at 3500 rpm for 10 min. Take the supernatant for test.
2. **Honey:** Dilute the honey with double distilled water for 1000 times.
3. **Seminal plasma:** Collect fresh semen samples and place at room temperature for 1 hour, then centrifuge at 2500 rpm for 15 min. Take the supernatant for test.
4. **Animal tissue:** Weigh the tissue accurately and add double distilled water at a ratio of weight (g): volume (mL) =1: 4, homogenize the tissue in ice bath to prepare 20% tissue homogenate, centrifuge at 2500 rpm for 10 min. Take the supernatant for test. Meanwhile, determine the protein concentration of supernatant (E-BC-K168-M, E-BC-K168-S).

Operation steps

	Blank tube	Standard tube	Sample tube
Double distilled water (mL)	0.05		
1 mg/mL Fructose standard solution (mL)		0.05	
Sample (mL)			0.05
Reagent 1 (mL)	3	3	3
Mix fully and incubate in boiling water bath for 8 min. Cool the tubes with running water. Set the spectrophotometer to zero with blank tube and measure the OD values of each tube at 285 nm with 1 cm optical path cuvette.			

[Note]: For tissue homogenate with high protein concentration, the reaction solution might be cloudy. It is recommended to centrifuge at 4000 rpm for 10 min after cooling and then take the supernatant for measuring the OD values.

Calculation of results**1. Calculation formula for juice, honey, seminal plasma samples:**

Fructose content (*mg/mL*)

$$= \frac{OD_{\text{Sample}}}{OD_{\text{Standard}}} \times \text{Concentration of standard (1 mg/mL)}$$

× Dilution factor of sample before tested

2. Calculation formula of tissue samples:

Fructose content (*mg/gprot*)

$$= \frac{OD_{\text{Sample}}}{OD_{\text{Standard}}} \times \text{Concentration of standard (1 mg/mL)}$$

÷ Protein concentration of 20% tissue homogenate (*gprot/mL*)

Notes

1. This kit is for research use only.
2. Instructions should be followed strictly, changes of operation may result in unreliable results.
3. The validity of kit is 12 months.
4. Do not use components from different batches of kit.