

Plant Flavonoid Content Assay Kit - Microplate Method

Product Information

Product Code	112395
Product Name	Plant Flavonoid Content Assay Kit - Microplate Method
Assay Size	100T

Product Introduction

Flavonoids are polyphenolic compounds and plant secondary metabolites. Their reported biological activities include anti-inflammatory, antibacterial, lipid-lowering, hydroxyl radical scavenging, and cancer prevention effects.

In an alkaline nitrite solution, flavonoids form a red complex with aluminum ions. This complex has a characteristic absorption peak at 510 nm. The flavonoid content of a sample can be calculated by measuring the absorbance of the sample extract at 510 nm.

Actual readings may vary under different testing conditions and with different instruments.

Package Contents

Component Code	Component	Quantity
BR5000386.1	Reagent I	1 tube
BR5000386.2	Reagent II	1 tube
BR5000386.3	Reagent III	1 bottle
BR5000386.m	Instruction Manual	1 copy

Quality and Safety Information

Raw Material or Packaging Name	Quality Standard	Main Toxicity
Reagent I	--	--
Reagent II	--	--
Reagent III	--	--

Transportation and Storage

Transportation	Transport with ice packs.
Storage	Store at 2-8°C. Shelf life: 180 days.

Instructions for Use

1. Flavonoid Extraction

1. Dry the sample to constant weight.
2. Pulverize the dried sample and pass it through a 40 mesh sieve.
3. Weigh approximately 0.02 g of sample.
4. Add 2 mL of 60% ethanol.
5. Extract by shaking at 60°C for 2 h.

6. Centrifuge at 10000 g and 25°C for 10 min.
7. Collect the supernatant for testing.

2. Assay Procedure

1. Preheat the microplate reader for at least 30 min and set the wavelength to 510 nm.
2. Add the components according to the table below.

Component	Blank Tube	Assay Tube
Sample test solution (µL)	-	108
Distilled water (µL)	108	-
Reagent I (µL)	6	6
Mix well and let stand at room temperature for 5 min.		
Reagent II (µL)	6	6
Mix well and let stand at room temperature for 5 min.		
Reagent III (µL)	80	80
Mix well and let stand at 25°C for 15 min.		

Measure the absorbance at 510 nm after incubation. Calculate ΔA as follows:

$$\Delta A = A_{\text{assay}} - A_{\text{blank}}$$

Prepare only one blank tube.

3. Calculation of Flavonoid Content

Standard curve:

$$y = 2.51x + 0.0007, R^2 = 0.9996$$

Flavonoid content (mg/g, dry weight):

$$(\Delta A - 0.0007) \div 2.51 \div (W \div V_{\text{total sample}}) = 0.797 \times (\Delta A - 0.0007) \div W$$

Symbol	Description	Value
V sample total	Volume of extraction solution added	2 mL
V sample	Sample volume in the reaction	0.108 mL
W	Sample mass	g

Precautions

1. This 100T product can test 96 samples.
2. Before the formal assay, select 2-3 samples with large expected differences for a preliminary assay.
3. Self-prepared laboratory supplies and instruments include: balance, oven, grinder, sieve, ultrasonic disruptor, 60% ethanol, centrifuge, microplate reader, 96-well plate, and distilled water.
4. If the OD value is greater than 0.8, dilute the sample appropriately before measurement. The calculation formula should be multiplied by the dilution factor.
5. The minimum detection limit is 10 µg/g.
6. Measure immediately after color development is completed. After 2 hours, the absorbance value will decrease.

Visual Reference