Nitrite Assay Kit (Water And Soil)

Operation Equipment: Spectrophotometer

Note: Take two or three different samples for prediction before test.

Catalog Number: BC1480

Size: 50T/48S

Components:

Extract solution: Liquid 100 mL×1 bottle, storage at RT.

Reagent 1: Liquid 15 mL×1 bottle, storage at 4℃ in shadow.

Reagent 2: Liquid 15 mL×1 bottle, storage at 4℃ in shadow.

Standard: Liquid 1 mL×1 tube, 1 μmol/mL sodium nitrite standard solution, dilute to 0.04 μmol/mL when using, storage at 4℃.

Product Description:

Nitrite exists widely in water and soil, which is an important intermediate of organic nitrogen decomposition. It may cause cancer of digestive system if intake too much.

In acidic condition, nitrite is reacted with aminobenzene sulfonic acid to form diazo-compound, then the compound is reacted with N-1-naphthylethylenediamine dihydrochloride to form purple-red azo compound, which can be detected by colorimetric assay at 540 nm.

Reagents and Equipments Required but Not Provided:

Spectrophotometer, analysis balance, centrifuge, 1 mL glass cuvette and distilled water.

Procedure:

I. Sample preparation:

1. Soil: add 2 mL extract solution to 1 g sifted soil, shake for 1 hour at RT, centrifuge at 8000 rpm 25℃ for 15 min, stand still, after layering take supernatant on the ice for test.
2. Water: detect directly, centrifuge if the sample is not clear.

II. Determination procedure:

1. Preheat Spectrophotometer for 30 min, adjust the wavelength to 540 nm, set the counter to zero with distilled water.
2. Dissolve standard with distilled water to 0.04 μmol/mL.
3. Operational table

Reagent name	Blank tube (A_B)	Test tube (A_T)	Standard tube (A_S)
Sample (μL)		500	
Standard solution (μL)			500
Distilled water (μL)	500		
Reagent 1 (μL)	250	250	250
Reagent 2 (μL)	250	250	250
Mix thoroughly and stand for 15 min at RT, detect absorbance at 540 nm. Note:Detect once or twice for blank tube.			

III. Calculation:

1. Soil sample:

NO_2^- (μmoL/g) = $(A_T-A_B) \div [(A_S-A_B) \div C] \times Vs \div (W \times Vs \div Ve) = 0.08 \times (A_T-A_B) \div (A_S-A_B) \div W$

2. Water sample:

NO_2^- (μmoL/mL) = $(A_T-A_B) \div [(A_S-A_B) \div C]$

C: standard solution concentration, 0.04 μmol/mL;

Vs: sample volume, 0.5 mL;

Ve: extraction volume, 2 mL;

W: sample weight, g;

Note:

1. Storage at 2-8℃.
2. There is no special requirement for temperature in this measurement.
3. Reagents have certain harm to the human body. Please wear lab coat and gloves.
4. Concentrate or dilute sample if the OD value beyond standard curve (A_{540} <0.05, concentration, A_{540} > 1.6, appropriate dilution).

Technical Specifications:

Minimum Detection Limit: 0.00086 mg/mL

Linear Range: 0.00125-0.06 mg/mL

Related products:

BC0080/BC0085 Nitrate Reductase(NR) Activity Assay Kit

BC1450/BC1455 Glutaminase (GLS) Assay Kit

BC1460/BC1465 Glutamate dehydrogenase (GDH) Activity Assay Kit