

CheKine™ Micro Serum Potassium (K⁺) Assay Kit

Cat #: KTB2100

Size: 96 T

	Micro Serum Potassium (K⁺) Assay Kit		
REF	Cat #: KTB2100	LOT	Lot #: Refer to product label
	Applicable samples: Serum		
	Storage: Stored at 4°C for 12 months, protected from light		

Assay Principle

In the assay, Potassium Ions (K⁺) react with Sodium Tetraphenylborate to form Potassium Tetraphenylborate, which is insoluble in Water and the produced turbidity is proportional to the Potassium concentration within a certain range; so, the concentration of Serum Potassium can be determined by measuring its turbidity. The kit provides a simple method for detecting Potassium (K⁺) in Serum samples.

Materials Supplied and Storage Conditions

Kit components	Size	Storage conditions
	96 T	
Extraction Buffer	50 mL	4°C
Reagent I	2 mL	4°C
Reagent II	1	4°C, protected from light
Reagent III	20 mL	4°C
Standard	1 mL	4°C

Materials Required but Not Supplied

- Microplate Reader or Visible Spectrophotometer capable of measuring absorbance at 520 nm
- 96 well plate or Microglass cuvette
- precision Pipettes, disposable Pipette Tips
- Centrifuge, Incubator, Ice Maker
- Distilled or Deionized Water

Reagent Preparation

Extraction Buffer: Ready to use as supplied; Equilibrate to room temperature before use; Store at 4°C.

Working Reagent II : Prepare before use, Take Reagent I , add all to Reagent II , then mixing. Store at 4°C.

Reagent III: Warm to 25°C in Incubator for more than 30 minutes before use.

Standard: Ready to use as supplied. Equilibrate to room temperature before use. Store at 4°C.

Sample Preparation

Serum samples: Add 50 µL Serum, 450 µL Extraction Buffer into the EP tube. Mix thoroughly. Centrifuge at 8,000 rpm for 10 min at 25°C and aspirating the supernatant to be tested.

Assay Procedure

1. Preheat the Microplate Reader or Visible Spectrophotometer for more than 30 min, and adjust the wavelength to 520 nm, Visible Spectrophotometer deionized water zero.

2. Sample measurement (add the following reagents in sequence to desired wells in 96 well plate or Microglass cuvette)

The Blank well: Add 40 µL Deionized Water, 20 µL Working Reagent II into the blank well. Mix well and stand for 5 min. Then add 140 µL of Reagent III. Immediately measure at OD520 nm to read A_{Blank} .

The Standard well: Add 40 µL of Standard, 20 µL of Working Reagent II into the standard well. Mix well and stand for 5 min. Then add 140 µL of Reagent III. Immediately measure at OD520 nm to read $A_{Standard}$.

The Test well: Add 40 µL of supernatant, 20 µL of Working Reagent II into the test well. Mix well and stand for 5 min. Then add 140 µL of Reagent III. Immediately measure at OD520 nm to read A_{Test} .

Data Analysis

Note: We provide you with calculation formulae, including the derivation process and final formula. The two are exactly equal. It is suggested that the concise calculation formula in bold is final formula.

$$K^+(\text{mmol/dL}) = [C_{\text{Standard}} \times (A_{\text{Test}} - A_{\text{Blank}}) \div (A_{\text{Standard}} - A_{\text{Blank}})] \times n = \mathbf{0.5 \times (A_{\text{Test}} - A_{\text{Blank}}) \div (A_{\text{Standard}} - A_{\text{Blank}})}$$

C_{Standard} : 0.5 mmol/L; A_{Test} : absorbance value of Test well; A_{Blank} : absorbance value of Blank well; A_{Standard} : absorbance value of Standard well; n: the dilution factor, 10; 1 dL=0.1 L

Disclaimer

The reagent is only used in the field of scientific research, not suitable for clinical diagnosis or other purposes.