CheKine™ Micro Serum Potassium (K^+) Assay Kit

Cat #: KTB2100 Size: 96 T/96 S

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

Assay Principle

Potassium can maintain the normal osmotic pressure and acid-base balance of the body, participate in glucose metabolism and protein metabolism. CheKine™ Micro Serum Potassium (K^+) Assay Kit provides a simple method for detecting K^+ content in serum samples. The resulting turbidity is proportional to the K^+ concentration within a certain range. Serum K^+ content was determined by measuring turbidity.

Materials Supplied and Storage Conditions

Kit components	Size	Storage conditions
	96 T	
Extraction Buffer	50 mL	4℃
Reagent Ⅰ	2.4 mL	4℃
Reagent Ⅱ	Powder×1 vial	4℃, protected from light
Reagent Ⅲ	20 mL	4℃
Standard	1 mL	4℃

Note: Before formal testing, it is recommended to select 2-3 samples with large expected differences for pre-experiment.

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
- Deionized water, concentrated sulfuric acid

Reagent Preparation

Working Extraction Buffer: Before use, the Extraction Buffer (mL) : concentrated sulfuric acid (μL) =5:12 is freshly prepared

according to the ratio of demand. Reprepare if precipitated.

Note: Extraction Buffer has certain irritation, so personal protection is recommended during use.

Working Reagent Ⅱ: Prepare before use, Take Reagent Ⅰ, add all to Reagent Ⅱ, then mixing. The remaining reagent can be stored at 4℃, protected from light for 1 week.

Reagent Ⅲ: Warm to 25℃ in incubator for more than 30 min before use.

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

Sample Preparation

Serum samples: Add 50 μL Serum, 450 μL Working Extraction Buffer into the EP tube. Mix thoroughly. Centrifuge at 8,000 rpm for 10 min at 25℃ 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 was returned to zero with deionized water.

2. Sample measurement (the following operations are operated in the 96-well plate or microglass cuvette).

Reagent	Blank Well (μL)	Standard Well (μL)	Test Well (μL)
Deionized Water	40	0	0
Standard	0	40	0
Supernatant	0	0	40
Working Reagent Ⅱ	20	20	20
Mix well and kept it for 5 min.			
Reagent Ⅲ	140	140	140

3. Mix well, the absorbance value is measured at 520 nm. The blank well is marked as A_{Blank}, the standard well is marked as $A_{Standard}$, and the test well is marked as A_{Test}.

Note: The Blank Well and the Standard Well only need to be done 1-2 times. If A_{Test} is less than 0.02, increase the sample quantity appropriately. If A_{Test} is larger than 1.1, the sample can be appropriately diluted with Extraction Buffer, the calculated result multiplied by the dilution factor, or decrease the sample quantity appropriately.

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^+ (mmol/L)=[$C_{Standard}$×(A_{Test}-A_{Blank})÷($A_{Standard}$-A_{Blank})]×n**=5×(A_{Test}-A_{Blank})÷($A_{Standard}$-A_{Blank})**

$C_{Standard}$: 0.5 mmol/L; n: Sample dilution factor, 10.

Disclaimer

The reagent is only used in the field of scientific research, not suitable for clinical diagnosis or other purposes. For your safety and health, please wear a lab coat and disposable gloves.